

Audit Report



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October 2010

# Performance Audit of the Fire Prevention Activities Within the City of San Diego

Significant  
Opportunities for  
Improvements Exist to  
Mitigate the Risk of  
Loss of Life and  
Property Resulting from  
Fire

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## THE CITY OF SAN DIEGO

October 6, 2010

Honorable Mayor, City Council, and Audit Committee Members  
City of San Diego, California

Transmitted herewith is an audit report on the Fire Prevention Activities within the City of San Diego. This report is in accordance with City Charter Section 39.2. The Results in Brief is presented on page 1. The Administration's response to our audit recommendations can be found after page 49 of the report.

If you need any further information please let me know. We would like to thank Fire Prevention Bureau and Park and Recreation Department's staff, as well as representatives from other City departments for their assistance and cooperation during this audit. All of their valuable time and efforts spent on providing us information is greatly appreciated. The audit staff responsible for this audit report is Claudia Orsi, Tricia Mendenhall, Kyle Elser and Chris Constantin.

Respectfully submitted,

City Auditor

cc: Jan Goldsmith, City Attorney  
Jay M. Goldstone, Chief Operating Officer  
Wally Hill, Assistant Chief Operating Officer  
Mary Lewis, Chief Financial Officer  
Javier Mainar, Fire Chief  
Frankie Murphy, Deputy Fire Chief  
Stacey LoMedico, Park and Recreation Department Director  
Kelly Broughton, Development Services Department Director  
Andrea Tevlin, Independent Budget Analyst

OFFICE OF THE CITY AUDITOR  
1010 SECOND AVENUE, SUITE 1400 • SAN DIEGO, CA 92101  
PHONE (619) 533-3165, FAX (619) 533-3036

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# Results in Brief

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The Fire Prevention Bureau (Bureau) does not conduct regularly required inspections which increases the risk of loss of life and property in the event of a fire. State law requires periodic inspections to be made of occupancies that use combustible, explosive or otherwise dangerous materials and requires that certain occupancies, such as day care facilities, residential facilities, and high rise buildings be inspected annually. We found that the Bureau did not conduct 41 of 63 (65 percent) inspections sampled within the annual required inspection cycle during calendar year 2009. As a result, occupants of City facilities subject to inspections are at increased risk because the Bureau does not inspect and address hazardous conditions in a timely fashion. Further, we found that the Bureau does not obtain appropriate and authorized remuneration for some of its inspections. State law authorizes local entities to recover the cost of their inspections. However, the Bureau has not invoiced for its high rise inspections since July 2009, and, as a result, missed the opportunity to recover at least \$545,322. To improve the extent to which the City of San Diego fire prevention activities help enhance public safety and ensure that inspection schedules comply with regulatory requirements, the San Diego Fire-Rescue Department (Fire-Rescue Department) should develop a prioritization schedule that varies the frequency of inspections according to risk, utilize light duty personnel and return retirees to help with inspections, and assign minimum performance measures to every inspection unit. To ensure that the Bureau obtains appropriate and authorized remuneration for its activities, we recommend that the Bureau develop a systemic and documented approach toward billing for, and recovering, unpaid inspection fees related to high rise inspections.

The Bureau has opportunities to strengthen its weak internal controls and data management to improve operational effectiveness and efficiency. We found that the Bureau has inadequate data systems that do not provide accurate listings of sites requiring inspections. This results in missing inspections or inefficiently assigning inspections of sites not requiring inspections. As a result, the Bureau incurred at least \$100,000 of non-recoverable costs for fiscal years 2008 and 2009. When databases are incomplete, not all inspections required by State and Municipal law are performed. To improve the extent to which the Bureau has the necessary internal controls to ensure that its fire prevention program is effectively implemented, we recommend the Bureau develop and update policies and procedures specifically addressing data management and internal controls, and ensure that database accuracy and completeness becomes a priority. In addition, we recommend that the Bureau work with other entities, such as the Business Tax Office and the Development Services Department, to interface the Bureau's database with other relevant City departments to ensure the timely capture of new business information.

The Bureau does not annually inspect all 42,818 parcels within its jurisdiction for brush management compliance and it lacks an adequate tracking system for its inspection activities. Under current staffing levels, the Bureau performs about 15,000 inspections per year and, thus, is able to inspect all parcels subject to brush management regulations only every three years. Substantial brush growth can occur over a three year period, so triennial reviews may not be sufficient to adequately prevent wildfires. In addition, the Bureau has not yet developed a

systemic process that ensures that it completes all of the inspections without duplication or without missing parcels in a particular zone. We found that for one area out of the four we sampled, the Bureau had not inspected 11 percent of the parcels at the same time it inspected all the others. In addition, the Fire-Rescue Department last updated the count of parcels subject to brush management regulations in 2007. Without an updated universe of parcels or a clear tracking system, the Bureau cannot be certain that it completely discharges its duty to inspect private parcels for brush management.

In other jurisdictions, local conditions dictate differing brush management requirements. State law requires 100 feet of defensible space but allows local jurisdictions to enhance the requirements. We surveyed four jurisdictions and found that they exceed San Diego's approach and vary defensible space requirements based on conditions. Moreover, achieving even the 100-foot buffer as mandated by State law appears to be a challenge in San Diego, as brush management is sometimes halted by community disputes such as in the case of Scripps Ranch in which the community halted brush management operations arguing that the negative environmental impacts to the community were not adequately addressed. If brush management is suspended or inadequate, the public may not be sufficiently protected. To ensure that the City's brush management and other fire prevention activities comply with State and local code and increase chances of preventing fires in the Wildland/Urban Interface (WUI), we recommend that the City perform an assessment of the appropriateness of the 100-foot defensible space buffer in San Diego. This process should include a discussion over commissioning an assessment to determine whether the current standards for creating an adequate defensible space buffering the Wildland/Urban Interface properly address: slope, fire intensity and environmental conditions, existing non-conforming rights, and other outstanding issues, and investigate the possibility of hiring an Urban Forester and a GIS specialist to increase brush management effectiveness and efficiency and present to the City Council justification for this request.

Improvements are needed in regard to the level of oversight over City departments' compliance with brush management regulations. The Bureau does not monitor whether public entities comply with brush management and other fire prevention requirements. In fact, the Bureau simply forwards complaints over brush management or other fire prevention requirements to the department to which the complaint pertains. According to the Bureau, although it has the authority to enforce compliance and impose a fine on private landowners for brush management violations, it does not have the authority to do so in regards to other City departments. The City Attorney concurs with the Bureau's assessment, but informed us that the Bureau has the authority to require that City departments report back to the Bureau on the status of the complaints and, in case of non-responsive behavior, the Bureau has the authority to elevate the issue to the Mayor and/or the Chief Operating Officer. If City departments' brush management or other fire prevention requirements are not properly monitored, public safety can be put at risk, private entities may perceive inequitable treatment, and public trust in government can be damaged. To improve the level of oversight on various City departments concerning brush management regulations and avoid the appearance of inequity and maintain public trust, we recommend that the Bureau establish policies and procedures that require City departments to report back to the Bureau the status of each complaint and the steps taken to address the violation. Specifically, these policies and procedures should make it clear that instances of non-compliance will be brought to the attention of the Mayor and/or the Chief Operating Officer.



# Introduction

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In accordance with the City Auditor's FY2010 Audit Workplan, we have completed an Audit of the San Diego Fire-Rescue Department's Fire Prevention Bureau. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We limited our work to those areas specified in the "Audit Objective, Scope, and Methodology" section of this report.

The City Auditor's Office thanks the Fire-Rescue Department and the Park and Recreation Department for giving their time, information, insight, and cooperation during the audit process.

## Background

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The San Diego Fire-Rescue Department (Fire-Rescue Department) provides fire prevention activities through the Fire Prevention Bureau (Bureau), which resides within the Fire-Rescue Department's Support Services Division. The Bureau conducts inspections of selected buildings to ensure public safety, regular inspections of private lots to ensure compliance with City brush management regulations, and monitors effective and efficient brush management operations conducted on private lots. In FY2010, Fire Prevention included 61 budgeted full-time equivalent staff and expenditures exceeding \$7.6 million. Exhibit 1 highlights budgeted staff and expenditures from fiscal year 2008, 2009 and 2010.

### Exhibit 1

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#### Fire Prevention Staffing and Expenditures for FY 2008-2010

Fire Prevention	FY 2008 BUDGET	FY 2009 BUDGET	FY 2010 BUDGET <sup>1</sup>
Department Staffing	41	47	61
Department Expenditures	\$4,688,834	\$5,668,206	\$7,629,305

Source: City of San Diego Fiscal Year 2010 Annual Budget

The Bureau accomplishes inspections through seven separate units. These units include:

- Brush Management;
- Combustible Explosive and Dangerous Materials (CEDMAT);
- Fire Company Inspection Program (FCIP);
- High Rise;

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<sup>1</sup> Fiscal year 2010 staffing and expenditure increases related to transfer of Development Services Department fire personnel back to the Fire Department.

- Special Events;
- Technical Services; and
- New Construction.

Exhibit 2 highlights the responsibility, number of staff, number inspections performed, and fee structures for each unit. According to Bureau information, Brush Management, CEDMAT, FCIP, and High Rise units perform the majority of fire safety inspections.

## Exhibit 2

### Fire Prevention Bureau Units and Descriptions

Unit	Responsibility	Number of Inspectors/Supervisors <sup>2</sup>	Number of inspections	Fees
Brush Management	Oversee and process the annual proactive brush management and weed abatement programs, and conduct complaint inspections on private parcels subject to brush management regulations	7 Code Compliance Officers/ 1 supervisor	42,818	\$300 Non Compliance
CEDMAT	Perform inspections on public and private businesses, including high technology manufacturing sites, that use, dispense, mix or store hazardous materials or explosives	6 inspectors/ 0.5 supervisor	3,951	\$46 per permit \$112 Per Hour Per Inspection \$300 Non-Compliance
FCIP	Train and advise fire station staff to provide State-mandated inspections for various occupancies types. Conduct annual inspections, licensing inspections, special surveys, pre-inspections and route slip inspections	6 inspectors/ 1 supervisor	6,910	There are 27 fees ranging from \$50 to \$671 based on occupancy type and square feet
High Rise	Conduct State-mandated inspections for buildings having floors used for human occupancy located more than 75 feet above the lowest floor level, except for buildings used as hospitals, and manage the Knox Box Program for the entire City of San Diego	2 inspectors/ 0.5 supervisor	205	\$11.83 Per 1,000square feet  \$137 Knox Box
Special Events	Issue permits and conduct site inspections for public assemblies which includes trade shows, concerts, street fairs, theatrical performances, filmmaking activities, tents, fireworks, lasers, and special effects	3 inspectors/ 0.5 supervisor	Demand driven/Vary by year	There are 8 different fees ranging from \$91 to \$364
Technical Services	Issue permits and conduct site inspections for installation, removal and repair of aboveground and underground tanks, compressed gas and medical gas	2 inspectors/ 0.5 supervisor	Demand driven/Vary by year	There are 15 different fees ranging from \$96 to \$1,538
New Construction	Coordinate plan review, engineering and inspection processes for new construction and tenant improvement projects	5 inspectors/ 1 supervisor	Demand driven/Vary by year	There are several fees ranging from \$496.50 to \$17,722.50

Source: Office of the City Auditor's analysis based on information provided by the Bureau.

<sup>2</sup> See Appendix 5 for an Organizational Chart showing vacant positions in each section due to hiring freeze.

## **Brush Management**

According to California law regarding brush management, all structures abutting the Wildland/Urban Interface (WUI)<sup>3</sup> must have at least 100 feet of defensible space to defend against wildfires.<sup>4</sup> The City's Municipal Code regulates brush management and creates two brush management zones with different requirements. Specifically, the Municipal Code requires property owners to maintain brush management in zone one (35 feet) and zone two (65 feet) to 100 feet from the structure or to their property line, whichever is nearest. Owners of the adjoining lands shall provide brush management for the remaining distance to a maximum of 100 feet from the structure. For City owned facilities, the City is responsible for maintaining 100 feet of defensible space from the structure. See Appendix 1.

Prior to the October 2007 wildfires, the Bureau handled brush management issues on a complaint basis. The Bureau would respond to complaints on private and public property, issue Notices of Violation to private property owners for violations, and refer violations on City land to the appropriate City department.

After the October 2007 wildfires, the Bureau began performing proactive inspections on private parcels subject to brush management regulations. The Bureau estimates that 42,818 private parcels are subject to brush management regulations. City departments are responsible for performing brush management on public parcels they manage that are subject to brush management regulations. The Bureau does not perform proactive inspections on public parcels.

City departments are responsible for managing and complying with brush management regulations on public land. While several departments such as Public Utilities and General Services are responsible for conducting brush management on public land they oversee, the Park and Recreation Department Open Space Division (Open Space Division) has responsibility of 1,180 acres, much of which abuts private property. The Fire-Rescue Department provided the Open Space Division a list of 27 areas for brush management within the Very High Fire Hazard Severity Zone. State law requires that all jurisdictions identify very high fire hazard severity zones within their areas of responsibility. Inclusion within these zones is based on vegetation density, slope severity and other relevant factors that contribute to fire severity.

Before fiscal year 2007-08, the City Council provided funding to thin only 70 acres of vegetation per year, primarily in response to complaints. To increase defensible space, the Open Space Division received a federal grant to conduct its proactive brush management program. As part of this grant, the Open Space Division entered into for-profit contracts to conduct part of its brush management operations. Prior to being awarded the Federal grant, the Open Space Division used only City staff and nonprofit contractors to perform brush management. Exhibit 3 and 4 show the before and after results of brush management operations.

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<sup>3</sup> Wildland/Urban Interface is the area where structures and other human development meet or intermingle with undeveloped wildland.

<sup>4</sup> Appendix 1 provides more detail on the Wildland/Urban Interface and defensible space.

### **Exhibit 3**

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#### **Wildland/Urban Interface Prior to Brush Management Operations**



**Source: Fire Prevention Bureau.**



## Exhibit 4

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### Wildland/Urban Interface After Brush Management



Source: Fire Prevention Bureau.

### **Combustible, Explosive and Dangerous Materials (CEDMAT)**

The CEDMAT unit performs inspections on public and private businesses, including biotechnology high technology manufacturing sites, that use, dispense, mix or store hazardous materials or explosives. These annual inspections are mandated by the California and/or local code.<sup>5</sup> The CEDMAT unit obtains a listing of 4,000 sites requiring annual inspection from the Bureau's data management unit, prioritizes sites based on the degree of hazard, and selects sites for inspection based on a highest to lowest priority system and the amount of time passed since last inspection.

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<sup>5</sup> California Health and Safety Code Sections 13143.9, 13145. Municipal Code 55,270 and Ordinance # 0-18242 dated January 1996.

CEDMAT inspections can take up to a month or longer depending on the square footage of the building and the time required correcting the violations. Inspectors use a standardized check list listing State and Municipal mandated requirements for inspections. Inspectors walk through the building checking compliance with these requirements making notations on the sheet. At the end of the inspection, CEDMAT inspectors provide the responsible building management personnel a copy of the FIMS worksheet<sup>6</sup> with the violations noted and the date of re-inspection.

### **Fire Company Inspection Program (FCIP)**

California Health and Safety Code and the San Diego Municipal Code delegate to the local Fire-Rescue Department the authority to enforce State and Municipal regulations and to conduct inspections of various businesses such as daycares, apartments, restaurants, and long term care facilities.<sup>7</sup> The Fire-Rescue Department complies with these regulations by assigning inspection responsibilities to each of the Fire-Rescue Department's battalions. The inspection duties are in addition to the emergency response duties of each battalion's fire stations.

The FCIP utilizes six inspectors, also called advisors, to conduct initial inspections of new businesses applying for residential and day care licenses. After the initial inspection, each advisor assigns responsibility for inspections, both new and those already existing in the system, to one of the seven citywide battalions he/she oversees. The FCIP advisor assigns the responsibility to conduct inspections to one of the 47 stations in the City he/she oversees based on the workload of each individual station. Fire Captains, who manage fire stations, are responsible for completing the inspections within the assigned time period. The FCIP advisor serves as the liaison between the Bureau and fire station staff and aids fire stations in completing inspections and assumes responsibility of inspections when there is an issue with compliance. Unlike other inspections, which are carried out by the Bureau's staff, these inspections are performed at the fire station level. The FCIP advisors are responsible for the management of all inspection paperwork returned to the Bureau by the fire companies for processing. In addition, the FCIP advisors are responsible for completing other annual inspections such as special surveys, pre-inspections, and complaint inspections.

### **High Rises**

California law mandates that the City annually inspect buildings having floors used for human occupancy located more than 75 feet above the lowest floor level having building access, except for buildings used as hospitals for compliance with fire safety requirements.<sup>8</sup> On a monthly basis, the High Rise unit supervisor assigns inspections to one of two inspectors. Inspectors are often assigned the same inspections year after year so that they become familiar with the building and its management and provide some consistency to the high rise inspection process. After an inspector receives the list of his/her assigned inspections, he/she schedules appointments with the building management to begin the inspection process. Inspectors carry a check list that lists all of the State and Municipal mandated requirements and walk through the building ensuring compliance with these requirements. At the end of the inspection, the

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<sup>6</sup> A worksheet used by inspector to note inspections findings and dates.

<sup>7</sup> California Health and Safety Code Sections 13143, 13145, 13114, 13195, 1597, 17921, 13108 and Ordinance # 0-16443 dated June 1985.

<sup>8</sup> California Health and Safety Code Sections 13211, 13145, and 13146.

inspector provides the building management a copy of the inspection forms with the violations noted and the date of re-inspection.

### **Emergency Notification System**<sup>9</sup>

In September 2007, Mayor Jerry Sanders unveiled the City of San Diego's new Reverse 911® Emergency Notification Call System. The system was designed to make mass telephone calls to alert the public in a timely manner during emergencies or disasters. When activated, the system uses the 911 telephone database to initiate a voice mail broadcasted message via land line telephones. Individuals using non-land line cellular phones can also register their numbers to receive the emergency calls. At the same time the County Sheriff's Office utilized the Reverse 911 system®, and the San Diego County Office of Emergency Services utilized a separate, but similar, emergency notification system from the vendor Twenty First Century Communication, Inc (i.e.Alert San Diego), creating a much desired redundancy in emergency notification to the community. However, the City no longer maintains its own license with the Reverse 911® vendor and instead currently utilizes the Countywide emergency notification system Alert San Diego. Although utilizing the Countywide system results in a loss of control of data that the City had by maintaining its own license with the Reverse 911® vendor, this is mitigated by additional benefits the City receives by utilizing the Countywide system. The audit report section titled Other Pertinent Information contains a review of the changes we identified to the emergency notification system since 2007.

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<sup>9</sup> The Police Department administered the Emergency Notification System and not the Fire Department.

# Objectives, Scope, and Methodology

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We conducted a review of City fire prevention activities to:

- (1) Determine the extent to which the City of San Diego fire prevention activities help to enhance public safety and whether the Fire Prevention Bureau (Bureau) has the necessary internal controls to ensure that its fire prevention program is effectively implemented and that the program properly recovers its costs for inspections;
- (2) Determine whether the City's brush management activities ensure compliance with State and local code and incorporate best practices and evaluate the level of oversight and coordination between various City departments regarding brush management;

Additionally, we reviewed emergency notification and evacuation services including, but not limited to, the Reverse 911® system, in order to evaluate progress since the 2007 fires.

To determine the extent to which the City of San Diego fire prevention activities help to enhance public safety and whether the Bureau has the necessary internal controls to ensure that its fire prevention program is effectively implemented and that it properly recovers costs for its inspections, we obtained an understanding of the roles and responsibilities of various City departments regarding fire prevention activities. We reviewed State and local regulatory requirements, departments' policies and procedures, and interviewed department officials with regard to their roles and responsibilities. We then evaluated a sample of 63 facilities fire inspections conducted by the Bureau's High Rise, CEDMAT and FCIP Units during calendar year 2007 through 2009 and determined whether the Bureau conducted these inspections in accordance with regulatory requirements and whether it met its performance objectives and enhanced public safety. The results of our analysis are not projectable to the universe. We interviewed Bureau staff involved in both oversight and data input, and evaluated the Bureau's approach toward ensuring that it had identified all the facilities that are subject to inspections. We also reviewed whether the Bureau properly enters and tracks necessary inspections. We reviewed a sample of 30 billings for inspections performed during calendar year 2008 and 2009 and evaluated the adequacy of the internal controls for invoicing.

We reviewed State laws and regulations, as well as local codes, and surveyed various jurisdictions' defensible space requirements, frequency of inspections, and level of oversight among entities involved with brush management. In addition, we reviewed the brush management activities within the City of San Diego from February 2008 to December 2009 and determined how the City ensures compliance with brush management regulations on both private and public land. We analyzed the Bureau's performance measures regarding its proactive inspections and the extent to which they help the City comply with statutory and regulatory requirements as well as ensure public safety. To evaluate the level of oversight between various City departments regarding brush management, we interviewed officials from the Bureau and the Park and Recreation Department and inquired about the level of oversight, coordination, and responsibility. We also reviewed the City's process to respond to complaints regarding noncompliance with brush management regulations by City departments and determined whether the Bureau has an effective process in place to ensure other City departments comply with brush



management regulations. We limited our review in this area to determining whether the Bureau monitors the Open Space Division's compliance with brush management regulations and whether the Open Space Division has conducted a cost-benefit analysis of using private contractors rather than City personnel to perform these operations.

We conducted a limited review of the Reverse 911 Emergency Notification Call System to summarize changes to the system since the October 2007 wildfires. We provide the results of this review in the section titled Other Pertinent Information.

We reviewed data from fiscal years 2007, 2008 and 2009 unless otherwise noted. We performed limited data reliability testing of the inspections data provided to us and which we relied on in this report, and searched for indicators of fraud. We evaluated internal controls related to our audit objectives. Our conclusions on the effectiveness of these controls are detailed with the following audit results.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our audit findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Audit Results

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## **Finding 1: The Fire Prevention Bureau Does Not Conduct Regularly Required Inspections Which Increases the Risk of Loss of Life and Property**

### **The Fire Prevention Bureau Does Not Complete All Required Inspections and it Does Not Maintain Accurate and Historical Data**

We found that the Fire Prevention Bureau (Bureau) did not conduct inspections of facilities as required under California law and San Diego Municipal Code. Specifically, we found that the Bureau did not conduct 41 of 63 (65 percent) inspections sampled within the annual required inspection cycle during calendar year 2009. Further, we found systemic breakdowns in data systems, which resulted in the Bureau not having data that is reliable to ensure inspections occur as required by law. As a result, occupants of City facilities subject to inspections are at increased risk because the Bureau does not inspect and address hazardous conditions in a timely fashion.

State and Municipal law requires periodic inspections to be made of various occupancies, such as buildings, structures and installations that use combustible, explosive or otherwise dangerous materials.<sup>10</sup> In addition, California law requires certain occupancies, such as restaurants, day care facilities, residential facilities, and high rise buildings to be inspected annually. Good business practices require retention of historical documents regarding program performance to increase transparency, reliability, and accountability.

We sampled inspection records for the Fire Company Inspection Program (FCIP), High Rise, and Combustible, Explosive and Dangerous Material (CEDMAT) units and found the Bureau did not complete inspections within the required timeframes. The following exhibit highlights the sampled inspections which did not occur within the required timeframes.

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<sup>10</sup> California Health and Safety Code Sections 13143 and 13143.9, 13145, 13114, 13195, 1597, 17921, and Ordinance # 0-16443 dated June 1985;

## Exhibit 5

### Percentage of Inspections Not Performed Within Required Timeframe for Calendar Year 2009

Unit	Inspections Sampled	Inspections Performed Within Required Timeframe	Inspections Not Performed Within Required Timeframe	Percent Not Performed Within Required Timeframe
CEDMAT	28	6	22	79%
FCIP	15	9	6	40%
High Rise	20	7	13	65%
<b>Totals</b>	<b>63</b>	<b>22</b>	<b>41</b>	<b>65%</b>

Source: Auditor analysis of sample inspections.

We found the CEDMAT unit, the unit responsible for annual inspections of hazardous material facilities, completed 54 percent of the sampled inspections during 2007 and the completion rate fell to 21 percent during 2009. In fact, we found several instances where the Bureau did not conduct annual inspections for several years and, in one case, since 2004.

We also found that 9 of the 15 sites we sampled in the FCIP were not inspected during 2007. In addition, our review of the Bureau's overdue inspections reports shows that as of April 2010, 25 to 43 percent of the FCIP inspection workload at 14 fire stations was 90 days overdue, despite the Bureau's goal to start inspections within 30 days of their annual due date. FCIP data showed that the Bureau performed its annual FCIP inspections almost every other year.

We found that of 20 high rises we sampled, 13 inspections were not performed in 2009 within the required timeframe. Moreover 9 of the 13 inspections were performed in 2010 with delays ranging from 65 to 146 days. In April 2010, a fire forced the evacuation and caused extensive damage to the W Hotel in downtown San Diego. At the time, the W Hotel was 146 days overdue for its annual inspection, which the Bureau initiated immediately following the fire. When the Bureau performs inspections with notable delays, it may miss an opportunity to prevent a fire and enhance public safety.

During the period under review, the Bureau could not provide documentation supporting the number of inspections performed, cancelled or overdue because it lacked the IT personnel capable of extracting such information and it did not retain paper copies dating back to the period requested. In addition, according to the Bureau, the inspection management system does not maintain accurate historical information on the inspection program. Further, the Bureau's data systems provide outdated, inaccurate, and incomplete information which does not allow the Bureau to efficiently and effectively plan their inspection activities. In our opinion, the existing mainframe data system and data practices appear inadequate to support the Bureau's efforts to ensure regular and timely inspections as required by law. While the Bureau is in the process of implementing a new data system, the Bureau must ensure it maintains complete and accurate information and utilize this information to better inform their inspection practices.

According to Bureau officials, the Bureau lacks the resources and staffing to maintain annual inspections of required facilities. For the CEDMAT program, CEDMAT supervisors have a practice of cancelling scheduled inspections due to lack of staff. This contributed to the drop in the rate of annual inspections completed. For its FCIP unit, the Bureau claims it realigned inspection due dates due to the prior year inspections finishing late and close to the following year. The Bureau attributes these delays on the fire stations' other demands. Some stations are specialty stations that specialize in hazardous material response, breathing apparatus repair and rescue, which place a considerable demand on the station's resources. When it comes to high rises, the Bureau claims that it delayed inspections because the Fire-Rescue Department Fiscal Management Unit had asked the Bureau to assist with developing a new fee structure to recover the costs of high rise inspections. To complete this task, the Bureau redirected one of its two high rise inspectors to perform that special project instead of the required annual inspections. According to Bureau officials it was necessary to assign this project to a high rise inspector to work with high rise building engineers to verify/confirm square footage.

The lack of timely inspections, reliable data systems and practices, increases the risk of fire resulting in the loss of property or worse, the loss of life. Annual inspections performed correctly should minimize the risk of "preventable" fires. Without accurate and consistent information on inspections the transparency, reliability, and accountability of the program results are affected and department managers and stakeholders are deprived of a key source of accurate historical data upon which to base future assessments of the program.

Prioritization and systemic approaches ensure equitable treatment of all facilities, apply limited resources to their best and highest purpose, and reduce the risk to public safety. Retention of historical documentation and use of reliable data sources regarding the program performance increases accountability, and improves the Bureau's ability to plan inspection activities. The Fire-Rescue Department and the Bureau should:

- Utilize light duty personnel to help perform inspections and evaluate the Bureau's workload/workforce ratio before assigning special projects to the Bureau;
- Develop a justifiable prioritization schedule that varies the frequency of inspections according to risk for the CEDMAT unit;
- Retain historical documentation regarding program performance; and
- Utilize reliable data sources to plan inspection activities.

We recommend:

#### **Recommendation # 1**

**The San Diego Fire-Rescue Department should further evaluate the resource requirements of the Fire Prevention Bureau and identify options for augmenting inspection staff. This may include, but is not limited to, assigning light duty personnel to help perform inspections or augment inspection staffing with qualified return retirees. (Priority 3)**

**Recommendation # 2**

**The San Diego Fire-Rescue Department should evaluate the Fire Prevention Bureau's workload before assigning its staff special projects that require considerable efforts, particularly if the Fire Prevention Bureau is not achieving inspection goals. (Priority 3)**

**Recommendation # 3**

**The Fire Prevention Bureau should replace its practice of canceling CEDMAT inspections with a justifiable prioritization schedule that varies the frequency of inspections according to risk. (Priority 2)**

**Recommendation # 4**

**The San Diego Fire-Rescue Department should ensure that the Fire Prevention Bureau maintains adequate documentation and data systems which provide reliable and accurate information on the universe of inspections, inspections performed, cancelled, and overdue. The Fire Prevention Bureau should use this information to appropriately plan inspection activities. (Priority 2)<sup>11</sup>**

**The Fire Prevention Bureau Does Not Meet its Internal Inspection Goal to Spend at Least 60 Percent of Time on Inspection-Related Activities**

We found that Bureau fire inspectors systemically do not achieve established inspection goals of spending 60 percent of their time on inspection-related activities. Specifically, for fiscal year 2009, none of the Bureau's five units achieved the 60 percent goal and, in fact, units only reported they conducted inspection activities an average of 22 to 43 percent of the time. The following exhibit highlights the quarterly inspection activities for Bureau units.

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<sup>11</sup> See Appendix 4 for information on recommendation priority setting.

## Exhibit 6

### Percentage of Time Charged to Direct Inspection Activities for Various Inspection Units During Fiscal Year 2009

	FCIP	Special Services	High Rise	CEDMAT/Technical Services	Brush
1 <sup>ST</sup> Quarter	16.6%	33.7%	37.5%	49.9%	32.7%
2 <sup>nd</sup> Quarter	26.9%	23.8%	35.9%	39.3%	37.4%
3 <sup>rd</sup> Quarter	20.0%	32.3%	41.9%	39.7%	47.7%
4 <sup>th</sup> Quarter	22.5%	37.2%	39.5%	43.5%	49.6%
<b>Average</b>	<b>21.5%</b>	<b>31.75%</b>	<b>38.7%</b>	<b>43.1%</b>	<b>41.85%</b>

Source: Fire Prevention Bureau time management report for fiscal year 2009.

The Bureau developed Performance Objectives for its inspection programs which state that inspectors should spend 60 percent of their time on direct inspection activities. On a quarterly basis the Bureau measures its inspectors' performance to determine whether it meets its Performance Objectives. Inspection related activities include code research, travel time, filling out inspection-related forms, and performing inspections. According to the Fire-Rescue Department, FCIP unit is exempt from the 60 percent requirement in recognition that its workload includes managing and supporting the engine company inspections. According to the Department, the 60 percent requirement is not applied to the FCIP unit because there are higher priority activities fire station personnel are required to conduct such as emergency response, and other performance measures are used to monitor the FCIP unit performance. We should note that, for its FCIP unit, although the Fire-Rescue Department tracks what percentage of inspections is completed within 90 days of their due date, they do not track the extent to which they start their inspection activity within the required time period.

Other activity is classified as non-direct inspection activity. This includes attendance at non-inspection related meetings, non-inspection related code development, drug testing, education and outreach, and various special assignments.

Bureau officials indicate they are aware of the difficulty to achieve established inspection performance metrics. According to the Bureau, the department is currently understaffed with seven vacant positions. Additionally, inspectors have other assigned administrative tasks and training that take away from the time available for inspections. Consequently, the Bureau does not have the staffing available to achieve the 60 percent goal.

Fire inspections reduce the risk of loss of life and property due by identifying and correcting dangerous conditions. When inspectors do not spend the majority of their time performing inspection-related activities, fewer inspections are performed and the risk of loss of life and property due to a preventable fire increases. According to the Bureau, staff shortages, vacancies and antiquated database also contribute to increased risk.

According to the International City/County Management Association's "Managing Fire and Rescue Services," local decision makers should routinely conduct surveys to get ideas about how to staff and fund their own prevention programs more effectively. Further, ICMA<sup>12</sup> indicates that a variety of staffing options exist for performing prevention activities. For example, some jurisdictions use emergency response personnel to conduct all of their fire code inspections. Other jurisdictions utilize personnel hired from outside the fire department or utilize paid/unpaid volunteers to conduct inspections. Some fire departments expand their inspection options by using self-inspection programs in some cases.

Thus, to enhance public safety and reduce the risk to life and property, the Bureau should:

- Redirect inspector activity to focus more time on direct inspection activities;
- Assess current staffing requirements and identify best practices for alternative delivery models that are fully cost recoverable for providing inspection services;
- Consider the use of alternatives to supplement and/or enhance inspection activity.

We recommend:

**Recommendation # 5**

**The Fire Prevention Bureau should increase the time inspectors spend on direct inspection activity to match established department goals. (Priority 2)**

**Recommendation # 6**

**The San Diego Fire-Rescue Department should assess the adequacy of their inspection related performance measure for its FCIP unit to ensure the measure tracks compliance with the annual inspection requirements. (Priority 2)**

**Recommendation # 7**

**The San Diego Fire-Rescue Department should assess current staffing requirements for providing inspection services that are fully cost recoverable, and as part of the assessment consider the use of alternatives services to supplement and/or enhance inspection activity. (Priority 3)**

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<sup>12</sup> IMCA "Managing Fire and Rescue Services", pg 385-387.

## **The Fire Prevention Bureau Has Opportunities to Strengthen Its Weak Internal Controls and Data Management to Improve Operational Effectiveness and Efficiency**

### *Inaccurate Data Systems Do Not Maintain Complete and Accurate Listings of Sites Requiring Inspections and Resulted in Missing Inspections or Improper Assignment of Inspections*

We found the Bureau's inspection database does not accurately maintain all sites requiring inspections and does not retain accurate inspection status information. Specifically, we found the database did not include about 200 sites requiring inspection by the CEDMAT unit and at least 400 sites requiring inspection from the FCIP unit. Moreover, during fiscal year 2008, we found that as many as 32 percent of scheduled CEDMAT inspections occurred on sites that did not require inspections. During fiscal years 2008 and 2009, about 32 to 35 percent of assigned CEDMAT inspections were of sites deemed vacant.

According to California Health and Safety Code and the San Diego Municipal Code, the Fire-Rescue Department conducts mandated inspections of various businesses such as daycares, apartments, restaurants, and long term care facilities. Additionally, California Code requires annual inspections on public and private businesses, including high technology manufacturing sites, that use, dispense, mix or store hazardous materials or explosives. The Fire-Rescue Department complies with these regulations by assigning these inspection responsibilities to the Bureau. Database completeness and accuracy is necessary in order to ensure that the Bureau conducts all mandated inspections and efficiently deploying resources.

Business owners must submit a business tax application to operate a new business in the City of San Diego. As part of the application, business owners must complete a Fire Survey Report, indicating whether the business will use or house hazardous materials. The City's Business Tax Office, housed in the Office of the City Treasurer, provides weekly e-mails of these Fire Surveys to the Assistant Fire Marshal. During the period of our review, we found the Business Tax Office provided about 70 to 90 Fire Survey Reports to the Bureau on a weekly basis. The primary purpose of the e-mail communications is to identify businesses that require annual CEDMAT inspections according to State law and Municipal law.

According to Bureau's officials, the process of printing out these e-mails and manually checking them against the 4,000 sites in their system to determine if they are new businesses and warrant an inspection is laborious and time consuming; therefore, the Bureau has not assigned a high priority to verify the information and update the Bureau's database. The Bureau attributes the inaccurate data systems to the transfer of data personnel, extensive training required for replacements and lack of appropriate supervision. Currently, Business Tax Office and Bureau data systems do not interface with one another and do not provide for regular automatic updates. Additionally, the Business Tax Office and the Bureau do not maintain a common filing system to allow cross checking of new businesses. This results in the Bureau missing new businesses requiring inspections, inspecting vacated sites and missing an opportunity to be informed by the Business Tax Office of recently vacated businesses. From July 2007 through June 2009, the Bureau spent about 1,300 hours on drive-by vacancy inspections at a cost of about \$100,000.

Incomplete and inaccurate information in its database will prevent the Bureau from complying with State required annual inspections and place public safety at risk of loss of life and property



in the event of a fire. If the Bureau's database does not reflect the entire universe of businesses that require a fire safety inspection, it might inspect some sites more often than others while some sites may escape scrutiny altogether. Moreover, if the Bureau does not take advantage of other data sources such as the Business Tax Office database, the Bureau will miss the opportunity to reduce inspections of vacant sites resulting in inefficient use of Bureau resources. To increase efficiencies and effectiveness the Bureau should:

- Ensure the completeness of its database becomes a priority along with appropriate staffing;
- Work with other entities, such as the Business Tax Office and the Development Services Department, to interface data management systems and provide more automatic updating of Bureau systems.

To ensure that the Bureau's database reflects the entire universe of businesses that require a fire safety inspections and that resources are properly utilized, we recommend that the Bureau take the following actions:

**Recommendation # 8**

**The Fire Prevention Bureau should work with other City departments, such as the City Treasurer's Business Tax Office and the Development Services Department, to electronically interface the Fire Prevention Bureau's database with other relevant City systems to ensure the timely capture of new business information. (Priority 3)**

**Recommendation # 9**

**The Fire Prevention Bureau should update policies and procedures making database completeness and accuracy a high priority. (Priority 2)**

*Existing Processes Do Not Provide Adequate Safeguards to Ensure Inspectors Follow Consistent Guidelines Regarding Inspection Status Reporting*

We found that during fiscal years 2008 and 2009, the Bureau lacked internal controls over its data information system. In addition, the Bureau lacked updated policy and procedures to guide employees and set clear expectations in regard to communication of inspection status between inspectors and data personnel. Inspectors provide data personnel forms in which they note the status and results of the inspections they performed. Data personnel are charged with transferring this information into the Bureau's information system to correctly reflect the status of the inspections and appropriately generate billings for services rendered. Specifically, we found that lack of adequate controls of the data management system resulted in the Bureau not performing annual inspections for 29 percent of the CEDMAT sites we sampled during calendar year 2007-2009. The control weakness allowed an inspector to change inspection due dates without management approval, resulting in missed annual inspections. The Bureau asserts that it verbally disciplined the inspector upon discovery. In addition, we sampled 20 high rise inspections and found the Bureau's information system inaccurately showed five (25 percent) of the inspections as incomplete. Bureau inspection files for these five inspections showed the

inspections were finalized in 2009. Data errors can result in the Bureau not invoicing for inspections it performed because the Bureau's data system inaccurately reflects the actual inspection status.

Federal standards dictate that the proper stewardship of Federal resources is an essential responsibility of agency managers and staff.<sup>13</sup> According to these standards, employees must ensure that programs operate and resources are used effectively and efficiently so that programs can operate in compliance with laws and regulations, and with minimum potential for waste and abuse. In addition, Federal standards regarding internal controls place the responsibility to develop and maintain effective internal controls with an agency's management. Policies and procedures are one of the tools that management has to achieve strong internal controls and ensure clear expectation and communication in program operations.

The Bureau's weak internal controls jeopardize the integrity of its data information system and interfere with its ability to conduct all of the required annual inspections. Careless administration of data entry has lead to missed billing opportunities, waste of resources, and inspections that should be performed that were not performed, putting public safety at risk.

As of July 2010, the Bureau plans to begin using a new data system called the Field Collection Unit (FCU). This new system will equip firefighters and fire inspectors with a pen-tablet PC system that allows for electronic capture of inspection data in the field, and integration for accessing data instantaneously through Mobile Data Computers. FCU will provide access to records such as inspection history, type of construction, floor levels, contacts, special features, hazardous materials and blueprints. In addition, portable wireless printers will provide customers with legible, signed copies of inspection results upon completion. The Bureau envisions that the new data system will reduce data entry errors by eliminating all manual entry and paper handling steps. As a result the Bureau should:

- Develop policy and procedures that:
  - address entering inspection information into the current data management information system;
  - ensure communication of inspection status between inspectors and data personnel;
- Ensure that critical data fields are only accessible by appropriate personnel and that information transferred into the new system is corrected as soon as possible;
- Recover the cost of inspections that were performed but not invoiced.

To provide a uniform approach and ensure efficient use of resources, we recommend that the Bureau take the following actions:

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<sup>13</sup> Office of Management and Budget, OMB Circular A-123 – Management's Responsibility for Internal Control.

**Recommendation # 10**

**The Fire Prevention Bureau should develop policies and procedures and implement controls addressing the following areas:**

- **Defining the process for obtaining, maintaining, entering, and modifying inspection status information in the management information system;**
- **Clarifying responsibilities for communication of inspection status between inspectors and data personnel;**
- **Establishing the manner in which the information system is managed;**
- **Discussing employees' roles and responsibilities related to internal controls and data management. (Priority 2)**

**Recommendation # 11**

**The Fire Prevention Bureau should work closely with the consultant hired to install the new data management system to ensure critical data fields are only accessible by appropriate personnel, or if this is impractical establish mitigating controls to monitor the appropriateness of data access and modification. (Priority 3)**

**Recommendation # 12**

**The Fire Prevention Bureau should work closely with its Field Collection Unit consultant and IT staff to ensure that information transferred to the new system is corrected as soon as possible. (Priority 3)**

To ensure proper remuneration for its inspection activities and recover the cost of inspections performed but not invoiced, we recommend that the Bureau take the following actions:

**Recommendation # 13**

**The Fire Prevention Bureau should retroactively invoice for the inspections that were not invoiced at the time they were performed due to data errors. (Priority 1)**

## **The Fire Prevention Bureau Has Not Billed and Collected an Estimated \$545,322 in Fees Related to High Rise Inspections During Fiscal Year 2010**

We found the Bureau has not invoiced for its high rise inspections since July 1, 2009. State law<sup>14</sup> authorizes local entities to recover the cost of these mandated inspections. The City Council approved the high rise fee structure. City policy and good business practices demand that the Bureau recover the full cost of its inspections.<sup>15</sup>

The City implemented a new inspection fee structure in 2009, which various high rise proprietors challenged. The Bureau used a rate per square footage methodology to calculate the fees associated with high rise inspections. This methodology consisted of capturing the associated Personnel and Non-Personnel expenses for a particular service and then dividing it into the total square footage for which the service is provided annually. The methodology is broken down into a cost per area, such as a cost per 1,000 square feet.

Until July 1, 2009 the Bureau only assessed fees for inspections performed for commercial and hotel high-rise structures. The Bureau has proposed to begin assessing inspection fees to residential high-rise structures beginning in fiscal year 2010. Prior to this proposed change, the General Fund subsidized these inspections. Additionally, residential structures less than 75 feet inspected under the FCIP group have been assessed inspection fees since 2004. Thus, the proposed changes have been designed to address the associated inequities.

High rise proprietors challenged the fee calculation because it is based on total square footage, not total square footage “walked” by inspectors. This is an important distinction because inspectors do not inspect each private residence in a residential high rise. They only inspect common areas. As a result of the dispute, the Fire-Rescue Department began a process of re-evaluating its fee structure methodology for residential high-rise buildings and directed the Bureau to discontinue all high rise billing until review was completed by City Council.

According to the Fire-Rescue Department, because the high rise fee inequities identified would affect all high rise inspections, the Fire-Rescue Department decided to continue performing inspection activities, but to suspend invoicing until such fee structure was reviewed and revised. Consequently, the Bureau discontinued invoicing all high rises, including commercial high rises since July 2009 to date. The Bureau asserts that when commercial high rises realized that residential high rises were eligible to pay for only the square footage actually inspected, hotels complained that they should have received equal treatment and also be expected to pay only for actual square footage inspected. Inspectors do not inspect occupied rooms when performing an inspection in a hotel. However, hotels are only a fraction of the commercial high rises. In fact, about 66 out of 200 high rises are businesses and offices of which the Bureau inspects the entire square footage. As a result of not having billed for its entire high rise inspections the Bureau calculates that it lost the opportunity to recover \$ 545,322 during July 1 2009, through July 1, 2010.

We found that the Bureau discontinued invoicing for its high rise inspections during July 2009 and informed the Budget and Finance Committee of its decision during March 2010,

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<sup>14</sup> California Health and Safety Code Section 13146.1.

<sup>15</sup> City of San Diego Memorandum on General Fund User Fee Policy, issued February 23, 2009.

approximately 9 months after it discontinued invoicing for its high rise inspections. The Bureau followed the administrative procedures available, but the City lacks a written Council approved policy or protocol that departments can follow when it is necessary and justifiable to defer the collection of fees owed to the City according to the current Council approved fee schedule.

To obtain appropriate and authorized remuneration for its activities, the Bureau should:

- Develop a systemic approach toward billing for, and recovering, unpaid inspection fees related to high rise inspections;
- The Bureau should bring before City Council a recommended policy and protocol for future fee deferrals that determine when the Mayor has the discretion to grant approval for discontinuing billing for City services rendered.

To obtain appropriate and authorized remuneration for its activities, we recommend that the Bureau take the following actions:

**Recommendation # 14**

**The Fire Prevention Bureau should develop a systemic and documented approach toward billing for, and recovering, unpaid inspection fees related to high rise inspections. (Priority 3)**

**Recommendation # 15**

**The Fire Prevention Bureau should resume and retroactively bill for inspections performed on high rises once the City Council approves the new fee structure. (Priority 1)**

**Recommendation # 16**

**The Bureau should bring before City Council a recommended policy and protocol for future fee deferrals that determine when the Mayor has the discretion to grant approval for discontinuing billing for City services rendered. (Priority 1)**

## **Finding 2: City Residents Remain at Risk Without Improvements to City Brush Management Efforts**

### **The Fire Prevention Bureau Approach to Brush Management Compliance Does Not Fully Address Wildfire Risk and Leaves Parcels Without Annual Inspections**

We found the Bureau conducts annual inspections of about a third of the 42,818 identified parcels under its jurisdiction. Specifically, we found that the Bureau annually inspects about 15,000 of 42,818 (about 36 percent) parcels. Under current performance metrics, the Bureau inspects all of the identified parcels approximately every three years. However, the City's Brush Management Bulletin Guide prescribes annual pruning requirements for homeowners because brush grows quickly. Further, weaknesses in the Bureau's inspection tracking effort results in areas being shown as inspected where parcels were not inspected and does not ensure all parcels subject to inspection are captured. Consequently, the threat to residents' property and lives may not be adequately mitigated.

State law<sup>16</sup> requires that all jurisdictions identify very high fire hazard severity zones within their areas of responsibility. The purpose of this exercise is to help public officials enact measures that will retard the rate of fire spread and reduce the intensity of uncontrolled fire through vegetation management developed to minimize loss of life, resources, and property. Knowing the exact number of parcels subject to these regulations and ensuring that all parcels are inspected at the appropriate frequency is essential to reducing the risk of loss of life and property in the event of a fire. After the 2007 California Wildfires, the City issued an After Action Report evaluating the response to the devastating 2007 Wildfires. The "*After Action Report-October 2007 Wildfires City of San Diego Response*" (2007 After Action Report) establishes a standard on how often parcels should be inspected by stating that under ideal circumstances the 42,818 parcel would be inspected annually and that a total of 14 positions are required for Fire-Rescue to conduct annual brush management inspections of all private parcels in the Wildland/Urban Interface (WUI) within the City of San Diego. In addition the 2007 After Action Report recognizes the current budgetary strains and suggests that if the inspection frequency were increased to a two-year cycle, the proposed 14 position staffing level could be cut by 50 percent.

The Bureau does not have an automated electronic process that ensures that it completes all necessary inspections without duplications or omissions in a particular zone. Rather, the Bureau documents its inspections using a manual process susceptible to human error. The Bureau relies on a wall-size map on which inspectors mark the areas to-be inspected with a red marker and designate the areas already inspected with a black marker. The following exhibit shows an example of the system used by the Bureau.

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<sup>16</sup> California Government Code Section 51179.

## Exhibit 7

### Brush Management Tracking System

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Source: Fire Prevention Bureau, Brush Management Unit.

During testing, we found that the Bureau did not inspect about 11 percent of the parcels in an area at the time the Bureau marked the area as complete. Further, the Bureau has not updated parcel information since 2007 increasing the likelihood parcels go uninspected.

Due to the lack of an automated tracking process, the Bureau is unable to ensure that it inspected all parcels. In fact, we found the Bureau tracking system for its brush management inspections is not automated and does not show clearly which parcel has been inspected versus which parcels have yet to be inspected. Specifically, we found that for one area we sampled the Bureau did not inspect about 11 percent of the parcels at the time the Bureau marked the area completed.

According to Bureau officials, during the time that the brush management teams were conducting inspections in the area mentioned above, City hired contractors were conducting brush management operations immediately behind certain homes located within brush management zone two. The Bureau did inspect the overlooked parcels after we found the discrepancy, but we have no assurance that brush management was conducted in all priority areas because the Bureau does not have an automated process that can readily document the parcels that have been inspected. In addition, because the Bureau has not updated its parcel count since 2007, the Bureau may not know how many parcels falls under its jurisdiction.

Without an automated system to account for the parcels subject to brush management regulations, the Bureau cannot ensure that it has inspected all the parcels that it is supposed to. In addition, without an updated universe of parcels or a clear tracking system, the Bureau cannot be certain that it completely discharges its duty to inspect private parcels for brush management, putting the public at risk of loss of life and property in the event of a fire.

The Bureau claims that it lacks sufficient resources to inspect all parcels annually. It currently has only 6 code compliance officers and 1 fire prevention supervisor. The Bureau's performance measures indicate that the Bureau increased the proportion of parcels inspected annually during the last three years, after the City increased its commitment to brush management and provided 5 new positions during fiscal year 2009 for a total of 7 positions. However, 2 of these positions perform complaints and rout slip inspections and not proactive brush management inspections. Under current staffing levels and inspection processes, the Bureau appears capable of performing about 15,000 inspections per year and therefore, it will only be able to inspect all parcels subject to brush management regulations only every three years. Our audit results are consistent with the Bureau's performance measures reported on the City of San Diego Fiscal Year 2010 Annual Budget. The following exhibit shows the performance measures reported by the Bureau.

#### Exhibit 8

##### Fire Prevention Bureau Performance Measures

Performance Measures	Baseline FY 2008	Actual FY 2009	Target FY 2010
Percent of privately owned parcels subject to brush management regulations inspected for compliance annually	16%	28%	36% <sup>17</sup>

Source: City of San Diego Fiscal Year 2010 Annual Budget.

The Bureau attributes this increase to inspections performed in areas with new developments that have Home Owners Associations (HOA) that perform their own brush management. Bureau code compliance officers can readily inspect over 500 homes because the code compliance officers coordinate with the HOA board and schedule inspections for the entire association. When the Bureau performs inspections of areas without an HOA, the Bureau must go door-to-door and individually talk to each owner to access backyards. The 2007 After Action Reports indicates the current level of staffing should accomplish 100 percent inspection in two years. The Bureau's current staffing, however, does not perform at this level and the Bureau did not provide any analysis to determine why the Bureau does not perform in-line to the 2007 After Action Report. Further, the Bureau does not maintain a clear standard establishing the appropriate frequency for brush management inspections.

According to Bureau officials, the Bureau lacks resources and staffing to ensure regular updates to the universe of parcels requiring inspection. The Bureau indicates they do not have a Geographic Information Systems (GIS) analyst with the skills necessary to update the Bureau's

<sup>17</sup> Our testing indicates that the Bureau is on target to achieve this performance measure.



data systems. Bureau officials have not assessed whether a full-time position or periodic assistance from other City staff and/or contractors is sufficient to accomplish annual updating of the Bureau's data system. Consequently, the Bureau has not updated its parcel count since 2007 resulting in the Bureau not knowing how many parcels falls under its jurisdiction. According to the International City/County Management Association's "Managing Fire and Rescue Services," Bureau officials should study how other jurisdictions accomplish their prevention programs.<sup>18</sup> In this case, the Bureau can benefit from assessing how others maintain up to date GIS records.

Substantial brush growth can occur over a multi-year period, so the Bureau's current inspection approach may not be sufficient to adequately reduce the risks from wildfires. The 2007 After Action Report considered seven code compliance officers sufficient for biennial inspections yet, the Bureau appears to be operating more at a rate of triennial reviews. Without an automated system to account for the parcels subject to brush management regulations, an updated universe of parcels, or clear tracking system, the Bureau cannot ensure that it has inspected all the parcels that it should, and, therefore, cannot be certain that it completely fulfills its duty to inspect the private parcels under its jurisdiction. In addition, without an updated universe of parcels or a clear tracking system, the Bureau cannot be certain that it completely discharges its duty to inspect private and public parcels for brush management, putting the public at risk of loss of life and property in the event of a fire.

We recommend that the Bureau implement the following recommendations:

**Recommendation # 17**

**The Fire Prevention Bureau should identify the capabilities and resources necessary to maintain a brush management tracking system which is up to date, retains relevant inspection information, and is used to efficiently and effectively deploy inspection resources. (Priority 2)**

**Recommendation # 18**

**The Fire Prevention Bureau should conduct periodic benchmarking of fire prevention activities with other jurisdictions to identify and implement best practices. (Priority 3)**

**Recommendation # 19**

**The Fire Prevention Bureau should reconcile its workload capabilities with the 2007 After Action Report and report the results to City Council. (Priority 2)**

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<sup>18</sup> ICMA "Managing Fire and Rescue Services", pg 385-387.

## **Improvements to Current Defensible Space Requirements Could Further Increase the City's Ability to Protect its Citizens in the Event of a Fire**

Even though the City has developed several regulatory requirements as a response to the 2003 and 2007 wildfires to guide brush management operations and increase the fire resistance and survivability of structures, we found that additional regulatory improvements could be made to further strengthen the City defensible space. State law<sup>19</sup> requires 100 feet of defensible space, but allows local jurisdictions to enhance the requirement according to local conditions and needs and specifies that the amount of brush management necessary shall take into account the flammability of the structure (due to its building material, for example), buildings standards, location and type of vegetation. Moreover, State law specifies that brush should be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite structures. The City's 2007 After Action Report recommended that the City undertake a comprehensive evaluation of relevant State and City codes and adjust the defensible space buffer to account for fire intensity and spread to ensure City residents remain protected.

The City of San Diego has developed several regulatory enhancements since the 2003 and 2007 wildfires, such as bulletins aimed at clarifying brush management requirements, a fire hazard severity map for the City of San Diego, high fire hazard priority areas, and has requested that, when structures are modified, buildings located in very high fire hazard severity zones comply with the 2007 California Building Code, Chapter 7A, "Materials and Construction Methods for Exterior Wildfire Exposure". In addition, the Fire-Rescue Department has helped communities create and establish fire awareness programs, pre-fire plans for high risk communities and provided community groups with education on fire prevention and brush management requirements. However, certain regulatory items that would increase the Bureau's ability to mitigate fires remain unaddressed. These items include addressing whether the current standards for creating an adequate defensible space buffering the Wildland/Urban Interface properly address:

- a. slope as it relates to fire intensity and environmental conditions;
- b. existing non-conforming rights;
- c. increased clarity over brush management regulations including what can be thinned and at what height.

As a result, the Bureau's ability to perform brush management effectively and efficiently is diminished. For example, we found that during 2009, in an effort to create 100 feet of defensible space, the City hired contractors to remove hundreds of mature healthy trees from City-owned land in Scripps Ranch. The Scripps Ranch community halted the brush management operations arguing that the negative environmental impacts to the community were not adequately addressed. At issue was the removal of healthy mature eucalyptus trees and their role in the spread of the 2003 and 2007 wildfires. Even though a compromise was reached, the City could not efficiently and effectively enforce brush management regulations over the course of the dispute.

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<sup>19</sup> Senate Bill No. 1369, Chapter 720, September 2004.

The City of San Diego has not performed a review to determine whether 100 feet of defensible space is sufficient even in areas affected by slope and high intensity winds. We surveyed various California jurisdictions regarding their defensible space requirements and, as Exhibit 9 indicates, we found that other jurisdiction have higher defensible space standards than San Diego.

## Exhibit 9

### Defensible Space Requirements in Various Jurisdictions

	San Diego	Santa Barbara	Ventura	Los Angeles	Auburn
Defensible Space Clearance Requirements	100 horizontal feet	150 feet extreme foothills 100 feet foothills 50 feet coast interior 30 feet coast If slope is 30% or greater, clearance requirements double	100 feet unless fire engine companies recommend 200 feet clearance	200 feet	100 feet to 400 feet

**Source:** Auditor generated based on information provided to us by the jurisdictions surveyed.

As a result, the City still faces uncertainty when it comes to enforcing brush management regulations and achieving a sufficient defensible space buffer. Consequently, City residents remain at risk when environmental conditions, fire intensity, and spread exceed the safety provided by a 100 foot buffer. Further, lack of a comprehensive evaluation of Codes to address fire safety and community concerns hinders the Bureau's ability to maintain even the 100 foot buffer.<sup>20</sup>

According to Bureau's officials, in order to circumvent regulatory limitations for areas that warrant brush management beyond the 100 foot buffer, and to help with environmental concerns, the Bureau would benefit from an Urban Forester and a GIS specialist. According to the Bureau, these two positions could provide inspectors with updated information on parcels that require clearance beyond the 100 foot buffer because of various environmental conditions. Therefore, to ensure the adequacy of the City defensible space, the Bureau should:

- formally evaluate the need to hire an Urban Forester and a GIS specialist to increase brush management effectiveness and efficiency, and present to the City Council justification for these requests.

To put forward its best efforts at protecting the public, we recommend that the Bureau:

<sup>20</sup> As seen in the case of the Scripps Ranch community.

## **Recommendation # 20**

**The Fire Prevention Bureau should take the following items to Council for action:**

- a. Commission an assessment to determine whether the current standards for creating an adequate defensible space buffering the Wildland/Urban Interface properly address: slope, fire intensity and environmental conditions, existing non-conforming rights, and other outstanding issues. The assessment should also evaluate the need to hire an Urban Forester and a GIS specialist to increase brush management efficiency and effectiveness.**
- b. Based on the results of the assessment, prepare an ordinance with additional standards to address the deficiencies identified and present to the City Council justification for any additional staffing requests. (Priority 1)**

### **The City Does Not Adequately Ensure That City Departments Comply with Brush Management Regulations**

We found that even though the Bureau inspects City land during the course of conducting proactive inspections, the Bureau does not monitor whether public entities comply with brush management and other fire prevention requirements. Specifically, we found that during fiscal year 2009, the Bureau forwarded about 260 complaints to various City Departments that did not comply with brush management regulations, but the Bureau did not monitor or follow up to ensure that the City departments complied with the regulations. In one instance, we found there was no evidence to indicate that a City department addressed 20 complaints forwarded to them. Further, with the exception of the Park and Recreation Department, we found the City does not know how much City land would be subject to brush management oversight. Consequently, the City is risking public safety and exposing the City to unnecessary liability.

The Bureau is tasked with providing fire prevention services that enhance public safety and reduce the likelihood of loss of property and life in the event of a fire.<sup>21</sup> To achieve its goal, the Bureau inspects private homeowners' backyards, which may include adjacent City-owned land, that are subject to fire safety requirements. In addition, the Bureau levels a non-compliance fee of \$300 after the third follow-up inspection.

Because the Bureau lacks the legal authority to ensure compliance from other City departments and to level a fee for non compliance with fire prevention regulations, it has been the Bureau's past practice to act like a clearinghouse; it simply forwards complaints about fire violations, but does not monitor or ensure compliance. However, fire spread does not discriminate between public and privately managed property. In addition, because the City does not maintain a count of the totality of parcels managed by City departments that are subject to brush management regulations, the City is not able to determine the percentage of land that falls under the responsibility of each City departments.

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<sup>21</sup> Fire Prevention Bureau mission statement located at [www.sandiego.gov/fireandems](http://www.sandiego.gov/fireandems).

According to the City Attorney's Office, the Bureau cannot level a fee on other City department that operates under the Mayor. However, the Bureau has the authority to require that City departments respond and report back to the Bureau on the status of the complaints and the steps taken to address the brush management violation or other fire prevention violations. In cases of non-compliance, the Bureau can elevate the issue to the Mayor's office and/or the City Chief Operating Officer.

If City departments' brush management or other fire prevention requirements are not properly monitored, public safety can be put at risk, private entities may perceive inequitable treatment, and public trust in government can be damaged. In addition, without knowing the totality of parcels in the City that are under public management, the Bureau cannot effectively and efficiently ensure that City land is properly maintained. As a result, the City may be deemed negligent for knowing a problem exists and failing to respond to it. To address these issues, the Bureau should:

- Establish policies and procedures that require City departments to report back to the Bureau the status of a complaint;
- Identify the totality of acres/parcels that City departments are responsible to manage for compliance with brush management regulations.

To ensure compliance with brush management regulations and to enhance public safety, we recommend that the Bureau take the following actions:

**Recommendation # 21**

**The Fire Prevention Bureau should establish policies and procedures that require City departments to report back to the Fire Prevention Bureau the status of complaints and the steps taken to address the violation. These policies and procedures should establish a process to inform the Mayor and/or the Chief Operating Officer of non complying City departments. (Priority 2)**

**Recommendation # 22**

**The Administration should determine the number of lots managed by City departments and the Fire Prevention Bureau should ensure departments are aware of their brush management responsibilities. (Priority 3)**

## **The Park and Recreation Department Open Space Division Needs to Perform a New Cost Benefit Analysis**

We found that the Park and Recreation Department Open Space Division (Open Space Division) has not performed a new cost-benefit analysis of its private brush management contract since 2008. Specifically, we found that during June 2008, the Open Space Division performed a cost-benefit analysis comparing the cost of relying on City employees for brush management against the use of hired contractors and determined that it is more cost effective to hire contractors to perform brush management. In April 2010, the Open Space Division entered into a new contract at significantly higher prices. Additionally, according to the Open Space Division, they are expected to execute a new for profit contract during fiscal year 2011. Thus, the Open Space Division should perform a new cost benefit analysis for its future brush management contracts to ensure that it is still appropriate to use contractors rather than City staff.

The Open Space Division is responsible for brush management of City land that it manages. Other entities within the City such as the General Services Department, Public Utilities Department, and Real Estate Department are responsible for brush management of land that they manage. Brush management under the Open Space Division is conducted by (1) City personnel, (2) not-for-profit organizations, and (3) a private for-profit organization with which the Park and Recreation contracts to provide services. The Exhibit below summarizes the funding and goals of the Open Space Division's brush management activities.

## Exhibit 10

### Open Space Division Budget and Acres of Brush Management Thinning Completed February 2008 Through January 2010

Fiscal Year	Budget	Goal	Acres Actually Completed
2008	\$1,036,412	210 acres	266 acres
2009	\$3,124,615	590 acres	530 acres
2010	\$3,209,946	590 acres	219 acres (in six months) <sup>22</sup>

Source: Park and Recreation Department Report No. 201, January 2010 to the Park and Recreation board.

During fiscal year 2009, the Open Space Division performed brush management on 90 percent of their annual goal. Approximately 504 of these acres were thinned by City and non-profit staff and the remaining 26 acres were thinned by hired contractors.

A 2008 Open Space Division cost benefit analysis for its private contract indicates that private contractors perform brush management at a lower price than City employees. Specifically, the Open Space Division cost benefit analysis indicated that the cost of clearing 100 percent of the acres subject to brush regulations for private contractors was \$1,357,586 versus \$3,448,629 for City employees. However, according to the Open Space Division, two private contractors that bid the project between \$2,050.55 and \$2,505.76 per acre eventually refused to provide adequate resources to thin the contracted number of acres. Both contractors argued that they were losing money on the work. The work was subsequently re-bid and in April 2010, a new contract was awarded for \$4,801 per acre.

The Open Space Division did not perform a new cost-benefit analysis for its April 2010 contract and according to the Open Space Division they are expected to execute a new brush management contract during fiscal year 2011. Thus, to ensure that it is still cost effective to utilize contractors rather than City staff to perform brush management, the Open Space Division should:

- Perform a new cost-benefit analysis for future contracts for its brush management activities.

<sup>22</sup> By the end of fiscal year 2010, the Open Space Division advised us that they actually exceeded their goal for 2010 by completing over 607 acres.

In order to ensure that the Open Space Division is managing its funds in the best interest for the City and to increase transparency and accountability, we recommend that the Open Space Division take the following action:

**Recommendation # 23**

**The Park and Recreation Department Open Space Division should conduct a new cost benefit analysis for future contracts and determine the most cost effective option to provide brush management services. (Priority 3)**



# Conclusions

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Ensuring public safety and reducing the threat of wildfires for residents are essential services provided by the City. As San Diego continues to face budgetary and resource pressures, department managers and employees are challenged to meet increasing demands with the same or declining resources. Consequently, departments should strengthen their internal controls and data management processes in order to reduce the risk of wasting public funds and inefficient and ineffective operations. The Fire Prevention Bureau (Bureau) exists to increase public safety by providing state- mandated facility inspections. In addition, in 2008, the Bureau began operating a proactive brush management program aimed at ensuring defensible space in San Diego and reducing hazards from wildfires and increasing public safety.

Poor data management with weak internal controls affects the Bureau's overall inspection performance and its cost recovery efforts. Moreover, the Bureau's database does not contain all the businesses that require an annual inspection. As a consequence, the Bureau risks treating businesses unfairly as some are inspected more than others, while others are not inspected at all.

According to the Bureau, it lacks sufficient resources to adequately conduct annual facility and brush inspections. Without effective processes and strong internal controls for data management processes the program cannot operate effectively. Effective implementation includes providing standardized guidance, processes, or systems for all inspection programs and ensuring that accurate and reliable data are maintained and easily accessible.

# Other Pertinent Information

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## **Emergency Notification Call System**

After the 2003 Cedar Fire, both the City and County of San Diego Sheriff's Office began researching emergency notification systems. Both eventually selected the Reverse 911® system, with the County implementing it first in March 2006, and the City following in September 2007. In addition to Reverse 911®, the County later added AlertSanDiego, another emergency notification system controlled by the San Diego County Office of Emergency Services (OES), and managed in partnership with Twenty First Century Communication, Inc.

The Reverse 911® system uses a confidential and secure AT&T telephone number database. The system can be used on cellular phones as well, if users voluntarily agree. The system is designed to make mass telephone calls to alert the public in a timely manner during emergencies or disasters. The City Office of Homeland Security supported and administered the City's Reverse 911® system with the San Diego Police Department responsible for implementing the public emergency notifications.

The AlertSanDiego system is a regional notification system that is capable of sending notifications to residents and businesses within San Diego County impacted by, or in danger of being impacted by, an emergency or a disaster. Specifically, AlertSanDiego is used by emergency response personnel to notify those homes or businesses at risk with information on the event and/or actions such as evacuation. The system utilizes the region's 911 database, provided by local telephone companies, and thus is able to contact both listed and unlisted land-line telephone numbers. The use of the 911 database is regulated by the California Public Utilities Code (CPUC) section 2872 and 2891.1. The information contained in the 911 database is confidential and proprietary and cannot be disclosed or utilized except by authorized personnel for the purpose of emergency notifications.

According to a December 2009 article in the Police Chief Magazine, both systems are designed to transmit a short prerecorded message a designated number of times and to call a number a second time if the first call fails. Both systems then tag the number as a failed call and keep moving down the list. Reasons for failed calls include downed phone lines, power outages, residents not at home, and inaccuracies in the database.

During the 2007 Wildfires, the City Reverse 911® system made 89,153 evacuation calls, and the County Sheriff's Office Reverse 911® system made 415,000 calls, for evacuation. The County limited messages to 15 seconds and the City messages ranged from 16 to 22 seconds. An additional 172,000 calls went out on the county's system AlertSanDiego. Many residents complained that a neighbor received a phone call but they did not, particularly when using cellular phones only and Voice over IP (VoIP).<sup>23</sup> In fact, according to City officials, it was a

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<sup>23</sup> Voice over Internet Protocol (VoIP) is a technology that allows you to make voice calls using a broadband Internet connection instead of a regular phone line.

challenge reaching customers that rely only on cellular phones and/or VoIP. Only 10,000 cell-phone and VoIP using residents had registered online to receive calls from the city's reverse 911 system.

During January and February 2008, the vendor, Reverse 911®, performed a review of an actual storm advisory notification released by the City on January 26, 2008, as a result of a system malfunction. This review revealed that only 1 of the 2 servers worked, and that the notification session prematurely stopped on January 26, 2008, and unintentionally resumed on January 29, 2008 due to faulty server configuration and programming. The City Office of Homeland Security worked with the vendor to correct the identified deficiencies with the system programming and began reviewing the capabilities of the county emergency notifications system AlertSanDiego. The vendor made a series of improvements to correct the problems identified, which included both software and server functionality updates. However, when the City, working with a select group of residences, tested the system in the fall of 2008, the tests revealed additional programming and functionality problems and, as a result, the City did not renew its Reverse 911® contract.

The City then adopted the County's emergency notification system AlertSanDiego and signed a memorandum of understanding with the County Office of Emergency Services (OES) which manages the countywide standard mass notification system to allow notification to employees and residents in times of emergencies. All AlertSanDiego system hardware and software is maintained and managed off-site by the vendor, Twenty First Century Communications, Inc. The City does not own, operate, or maintain any AlertSanDiego hardware or software. Specifically, designated City personnel operate and utilize AlertSanDiego through a secure internet portal, allowing them access to the system wherever there is an internet connection.

The vendor conducts geo-coding, which means matching phone numbers and e-mail addresses to physical addresses, on a monthly basis, with refinement by County OES and the City Office of Homeland Security. According to the City Office of Homeland Security, the overall monthly geo-coding rate is above 98 percent with most discrepancies attributable to erroneous self registration information and unmatchable 911 database information.

System administration within the City is the responsibility of the Office of Homeland Security and includes the following:

- reviewing and refining the monthly geo-coding process conducted by the vendor and County OES;
- approving and tracking all City personnel designated and granted access as System Operators for the Mass Emergency Notification System;
- maintaining the memorandum between County OES and the City regarding the operation and implementation of the regional Mass Emergency Notification System;
- providing and coordinating training for System Operators within other City departments or organizations;
- performing various other tasks related to coordination of all Mass Emergency Notification System activations and outreach efforts to promote and inform the public about the Mass Emergency Notification System.

The City finds that utilizing the County's AlertSanDiego system adds the following benefits: less staff time, increased data accuracy, and a more user-friendly system. Additionally, the City still maintains control over the priority areas within City limits set to receive emergency notifications and the message that is to be received. According to City officials, testing and actual usage revealed AlertSanDiego, to be more effective than the previously employed Reverse 911®.

### **Evacuations and Sheltering**

According to the May 2009 San Diego County Grand Jury report entitled "The Fire Next Time – Will We Be Ready?" the October 2007 wildfires not only ravaged San Diego County but, with 500,000 people under mandatory evacuation order, set records for the number of residents evacuated. The American Red Cross was overwhelmed by the massive need for assistance. According to the report, if not for local government agencies and community volunteers setting up additional shelters, the 50,000 evacuated residents requiring emergency shelter may have been unable to find it.

According to the report, 46 shelters opened in the County, and County officials staffed the mega-shelter at the Del Mar Fairgrounds, while the City of San Diego managed and staffed the mega-shelter at QUALCOMM Stadium. According to the report, neither the County nor the City had specific procedures for the operations of the mega-shelters during the 2007 firestorm. Based on this finding, the report issued the following recommendation to the City Office of Homeland Security:

- Adopt an Emergency Care and Sheltering Plan for the City of San Diego which includes a plan for the establishment and operation of a mega-shelter, with particular application to the Qualcomm Stadium facility.

On August 27, 2008 and September 16, 2008, both the Mayor and the Council responded to the recommendations made in the Grand Jury Report, respectively. The responses indicated that the recommendation was being implemented. The Mayor stated that the care and sheltering plans were being developed and implemented to increase coordination and response within the City that will complement the County's Operational Area Emergency Plan Annex G, Care and Shelter Operations<sup>24</sup>. In addition, the Mayor's response stated that the City is developing an Appendix to Annex G to outline with specificity the requirements needed to manage an effective mega-shelter for Qualcomm Stadium.

We contacted the City's Office of Homeland Security to determine the status of these recommendations. According to the City Office of Homeland Security, the City has updated the Annex G and is currently under contract with a vendor to develop the first mega-shelter plan for Qualcomm Stadium. The goal is to also develop additional site specific plans for other sites specific plans for other mega shelter sites over the next few years, as needed.

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<sup>24</sup> The care and shelter component of the plan. This annex sets forth the operational procedures for the provisions of food, clothing and shelter, on a mass care basis, to victims of natural disasters or other emergencies who are unable to provide for themselves.

# Recommendations

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To maximize public safety and to ensure that annual inspections are performed, we recommend that the Fire-Rescue Department and the Bureau take the following actions:

1. The San Diego Fire-Rescue Department should further evaluate the resource requirements of the Fire Prevention Bureau and identify options for augmenting inspection staff. This may include, but is not limited to, assigning light duty personnel to help perform inspections or augment inspection staffing with qualified return retirees. (Priority 3)
2. The San Diego Fire-Rescue Department should evaluate the Fire Prevention Bureau's workload before assigning its staff special projects that require considerable efforts, particularly if the Fire Prevention Bureau is not achieving inspection goals. (Priority 3)
3. The Fire Prevention Bureau should replace its practice of canceling CEDMAT inspections with a justifiable prioritization schedule that varies the frequency of inspections according to risk. (Priority 2)
4. The San Diego Fire-Rescue Department should ensure that the Fire Prevention Bureau maintains adequate documentation and data systems which provide reliable and accurate information on the universe of inspections, inspections performed, cancelled, and overdue. The Fire Prevention Bureau should use this information to appropriately plan inspection activities. (Priority 2)

In order to increase accountability at the fire stations regarding inspections, we recommend that the Bureau take the following actions:

5. The Fire Prevention Bureau should increase the time inspectors spend on direct inspection activity to match established department goals. (Priority 2)
6. The San Diego Fire-Rescue Department should assess the adequacy of their inspection related performance measure for its FCIP unit to ensure the measure tracks compliance with the annual inspection requirements. (Priority 2)
7. The San Diego Fire-Rescue Department should assess current staffing requirements for providing inspection services that are fully cost recoverable, and as part of the assessment consider the use of alternatives services to supplement and/or enhance inspection activity. (Priority 3)

To ensure that the Bureau database reflects the entire universe of businesses that require fire safety inspections and that resources are properly utilized, we recommend that the Bureau take the following actions:

8. The Fire Prevention Bureau should work with other City departments, such as the City Treasurer's Business Tax Office and the Development Services Department, to electronically interface the Fire Prevention Bureau's database with other relevant City systems to ensure the timely capture of new business information. (Priority 3)

9. The Fire Prevention Bureau should update policies and procedures making database completeness and accuracy a high priority. (Priority 2)

To provide a uniform approach and ensure efficient use of resources, we recommend that the Bureau take the following actions:

10. The Fire Prevention Bureau should develop policies and procedures and implement controls addressing the following areas:
  - a. Defining the process for obtaining, maintaining, entering, and modifying inspection status information in the management information system;
  - b. Clarifying responsibilities for communication of inspection status between inspectors and data personnel;
  - c. Establishing the manner in which the information system is managed;
  - d. Discussing employees' roles and responsibilities related to internal controls and data management. (Priority 2)
11. The Fire Prevention Bureau should work closely with the consultant hired to install the new data management system to ensure critical data fields are only accessible by appropriate personnel, or if this is impractical establish mitigating controls to monitor the appropriateness of data access and modification. (Priority 3)
12. The Fire Prevention Bureau should work closely with its Field Collection Unit consultant and IT staff to ensure that information transferred to the new system is corrected as soon as possible. (Priority 3)

To ensure proper remuneration for its inspection activities and recover the cost of inspections performed but not invoiced, we recommend that the Bureau take the following action:

13. The Fire Prevention Bureau should retroactively invoice for the inspections that were not invoiced at the time they were performed due to data errors. (Priority 1)

To obtain appropriate and authorized remuneration for its activities, we recommend that the Bureau take the following actions:

14. The Fire Prevention Bureau should develop a systemic and documented approach toward billing for, and recovering, unpaid inspection fees related to high rise inspections. (Priority 3)
15. The Fire Prevention Bureau should resume and retroactively bill for inspections performed on high rises once the City Council approves the new fee structure. (Priority 1)
16. The Fire Prevention Bureau should bring before City Council a recommended policy and protocol for future fee deferral that determines when the Mayor has the discretion to grant approval for discontinuing billing for services rendered. (Priority 1)

To ensure that the Bureau inspects all lots subject to brush management regulations, we recommend:

17. The Fire Prevention Bureau should identify the capabilities and resources necessary to maintain a brush management tracking system which is up to date, retains relevant inspection information, and is used to efficiently and effectively deploy inspection resources. (Priority 2)
18. The Fire Prevention Bureau should conduct periodic benchmarking of fire prevention activities with other jurisdictions to identify and implement best practices. (Priority 3)
19. The Fire Prevention Bureau should reconcile its workload capabilities with the 2007 After Action Report and report the results to City Council. (Priority 2)

To put forward its best efforts at protecting the public, we recommend that:

20. The Fire Prevention Bureau should take the following items to Council for action:
  - a. Commission an assessment to determine whether the current standards for creating an adequate defensible space buffering the Wildland/Urban Interface properly address: slope, fire intensity and environmental conditions, existing non-conforming rights, and other outstanding issues. The assessment should also evaluate the need to hire an Urban Forester and a GIS specialist to increase brush management efficiency and effectiveness.
  - b. Based on the results of the assessment, prepare an ordinance with additional standards to address the deficiencies identified and present to the City Council justification for any additional staffing requests. (Priority 1)

To ensure compliance with brush management regulations and to enhance public safety, we recommend that the Bureau take the following actions:

21. The Fire Prevention Bureau should establish policies and procedures that require City departments to report back to the Fire Prevention Bureau the status of complaints and the steps taken to address the violation. These policies and procedures should establish a process to inform the Mayor and/or the Chief Operating Officer of non complying City departments. (Priority 2)
22. The Administration should determine the number of lots managed by City departments and the Fire Prevention Bureau should ensure departments are aware of their brush management responsibilities. (Priority 3)

In order to ensure that the Open Space Division is managing its funds in the best interest for the City and to increase transparency and accountability, we recommend that the Open Space Division take the following action:

23. The Park and Recreation Department Open Space Division should conduct a new cost benefit analysis for future contracts and determine the most cost effective option to provide brush management services. (Priority 3)

## Appendix 1

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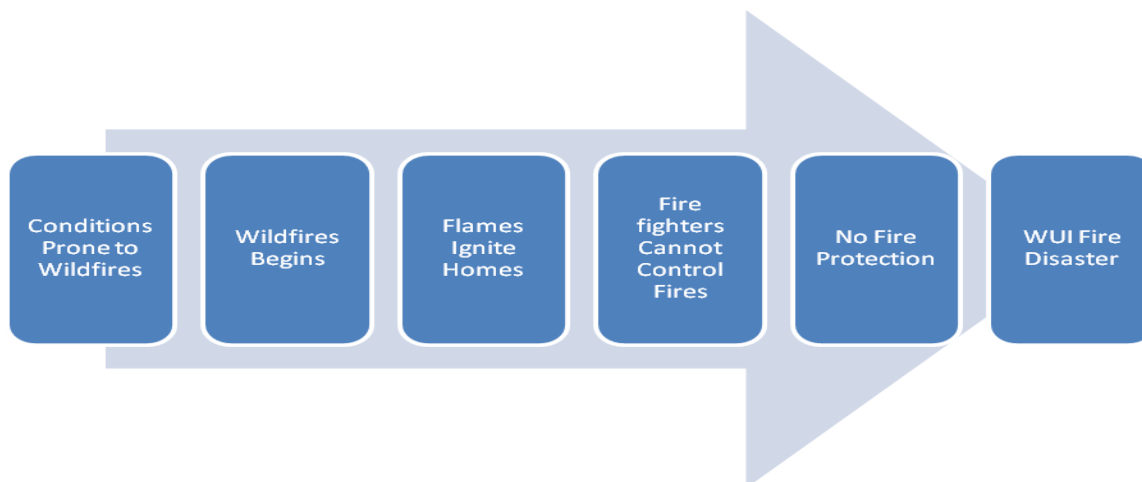
### **Wildland/Urban Interface and Its Effect on Defensible Space**

Defensible space is the space between a structure and a wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildfire to a structure. Vegetation surrounding a building or structure is fuel for a fire. Defensible space protects a home from igniting due to direct flame contact and radiant heat. Compliance with defensible space requirements is essential for structure survivability during wildfire conditions and to create a zone where firefighters can safely fight the flames. Fuel reduction around a building or structure increases its probability of surviving a wildfire. Fuel reduction through brush management is the key to creating defensible space.

Wildland/Urban Interface (WUI) is the area where structures and other human development meet or intermingle with undeveloped wildland. The expansion of the WUI in recent years has significant implications for wildfire management and impact. The WUI creates an environment in which fire can move quickly between structures and vegetation causing wildfire disasters, particularly where there is insufficient defensible space.

WUI fire disasters principally occur under extreme weather conditions such as very high winds and extremely dry and unmanaged vegetation in proximity with human development. When these conditions exist, numerous houses can burn concurrently, overwhelming firefighter capacity and reducing fire protection effectiveness. Figure 1 shows the progression leading to a WUI fire disaster.

**Figure 1: Events Leading to a WUI Fire Disaster**



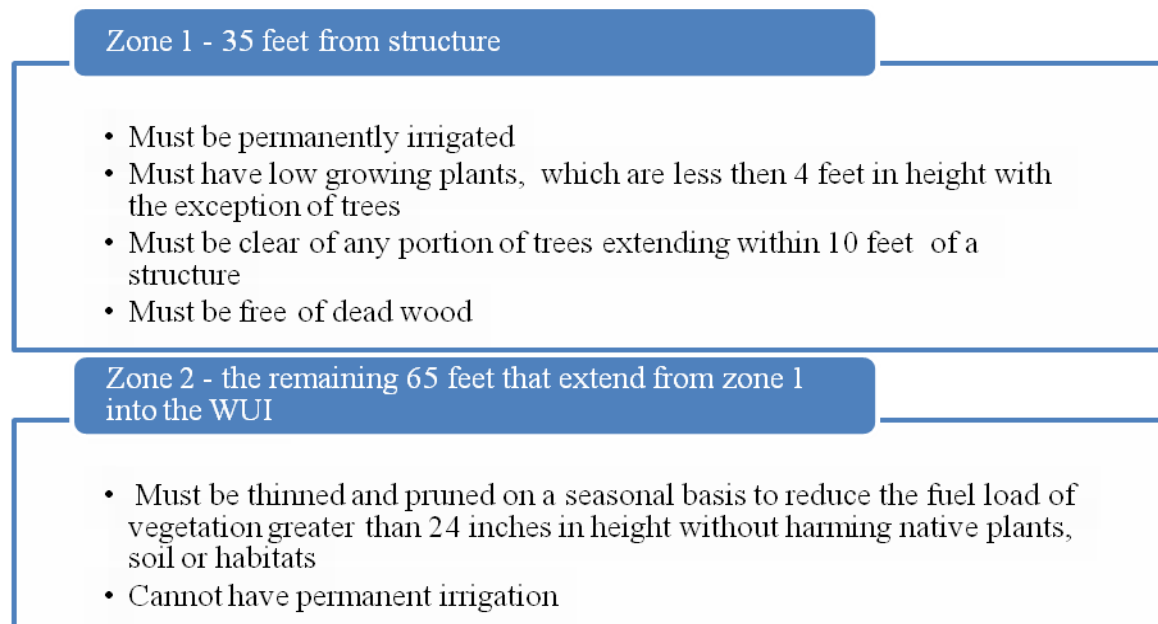
Source: Office of the City Auditor’s analysis of information presented in the Forest History Today, Fall 2008 report titled “*The Wildland-Urban Interface Fire Program-A Consequence of the Fire Exclusion Paradigm*” by Jack Cohen.



According to recent studies,<sup>25</sup> a WUI fire disaster principally depends on a structure's ignition potential and the defensible space surrounding it. If defensible space is maintained, structures are less prone to ignition. Thus, extreme wildfires could occur without a WUI fire disaster.

The City's Municipal Code regulates brush management and creates two Brush Management Zones with different requirements. The Code was amended in 2005 to make these zones total 100 feet of defensible space away from structures in accordance with State law. The figure below summarizes the requirements within the two zones.

**Figure 2: Summary of Requirements for Brush Management Zone 1 and 2**



**Source: Office of the City Auditor based on Municipal code requirements.**

### **Brush Management is Both a Private and a Public Responsibility**

Homeowners are responsible for conducting brush management on their property (Zone 1). The City's Park and Recreation Department is responsible for conducting Zone 2 brush management that is not located on private property. The Bureau is responsible for conducting inspections on all the privately-owned lots that are subject to brush management regulations for code compliance. The Bureau does not inspect the Park and Recreation Department's brush thinning operations.

<sup>25</sup> "The Wildland-Urban Interface Fire Problem" (2008) by Jack Cohen and "Thoughts on the Wildland-Urban Interface Fire Problem" (2003) by Jack Cohen.

## Appendix 2

### 20 Largest California Wildfires By Acres Burned

#### 20 Largest California Wildland Fires (By \*Acreage Burned)

	FIRE NAME/CAUSE	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	CEDAR (HUMAN)	October 2003	SAN DIEGO	273,246	2,820	15
2	ZACA (HUMAN)	July 2007	SANTA BARBARA	240,207	1	0
3	MATILAJA (UNDETERMINED)	September 1932	VENTURA	220,000	0	0
4	WITCH (POWERLINES)	October 2007	SAN DIEGO	197,990	1,650	2
5	KLAMATH THEATER COMPLEX (LIGHTNING)	June 2008	SISKIYOU	192,038	0	2
6	MARBLE CONE (LIGHTNING)	July 1977	MONTEREY	177,866	0	0
7	LAGUNA (POWERLINES)	September 1970	SAN DIEGO	175,425	382	5
8	BASIN COMPLEX (LIGHTNING)	June 2008	MONTEREY	162,818	58	0
9	DAY FIRE (HUMAN)	September 2006	VENTURA	162,702	11	0
10	STATION FIRE (HUMAN)	August 2009	LOS ANGELES	160,557	209	2
11	MCNALLY (HUMAN)	July 2002	TULARE	150,696	17	0
12	STANISLAUS COMPLEX (LIGHTNING)	August 1987	TUOLUMNE	145,980	28	1
13	BIG BAR COMPLEX (LIGHTNING)	August 1999	TRINITY	140,948	0	0
14	CAMPBELL COMPLEX (POWERLINES)	August 1990	TEHAMA	125,892	27	0
15	WHEELER (ARSON)	July 1985	VENTURA	118,000	26	0
16	SIMI (UNDER INVESTIGATION)	October 2003	VENTURA	108,204	300	0
17	HWY. 58 (VEHICLE)	August 1996	SAN LUIS OBISPO	106,668	13	0
18	IRON ALPS COMPLEX (LIGHTNING)	June 2008	TRINITY	105,805	2	10
19	CLAMPITT (POWERLINES)	September 1970	LOS ANGELES	105,212	86	4
20	BAR COMPLEX (LIGHTNING)	July 2006	TRINITY	100,414	0	0

There is no doubt that there were fires with significant acreage loss in years prior to 1932, but those records are less reliable, and this list is meant to give an overview of the large acreage-loss fires in more recent times. (Also note that this list does not include fire jurisdiction. These are the top 20 within the state, regardless of whether they were state, federal, or local responsibility.)



9/28/2009

Source: [www.fire.ca.gov](http://www.fire.ca.gov)

**Note:** Based on the information above, the 2003 Cedar Wildfire is the largest California Wildfire in the last 20 years in terms of acres burned, and it burned 273,246 acres. In addition, the October 2007 Wildfire (Witch) was the fourth largest California Wildfire; it burned 197,990 acres. Both fires ravaged San Diego County.


## Appendix 2 – Continued

### 20 Largest California Wildfires By Structures Destroyed

#### 20 Largest California Wildland Fires (By Structures Destroyed)

	FIRE NAME/CAUSE	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	TUNNEL (REKINDLE)	October 1991	ALAMEDA	1,600	2,900	25
2	CEDAR (HUMAN)	October 2003	SAN DIEGO	273,246	2,820	15
3	WITCH (UNDER INVESTIGATION)	October 2007	SAN DIEGO	197,990	1,650	2
4	OLD (HUMAN)	October 2003	SAN BERNARDINO	91,281	1,003	6
5	JONES (UNDETERMINED)	October 1999	SHASTA	26,200	954	1
6	PAINT (ARSON)	June 1990	SANTA BARBARA	4,900	641	1
7	FOUNTAIN (ARSON)	August 1992	SHASTA	63,960	636	0
8	SAYRE (MISC)	November 2008	LOS ANGELES	11,262	604	0
9	CITY OF BERKELEY (POWERLINES)	September 1923	ALAMEDA	130	584	0
10	HARRIS (UNDER INVESTIGATION)	October 2007	SAN DIEGO	90,440	548	8
11	BEL AIR (UNDETERMINED)	November 1961	LOS ANGELES	6,090	484	0
12	LAGUNA FIRE (ARSON)	October 1993	ORANGE	14,437	441	0
13	LAGUNA (POWERLINES)	September 1970	SAN DIEGO	175,425	382	5
14	HUMBOLDT (ARSON)	June 2008	BUTTE	23,344	351	0
15	PANORAMA (ARSON)	November 1980	SAN BERNARDINO	23,600	325	4
16	TOPANGA (ARSON)	November 1993	LOS ANGELES	18,000	323	3
17	49ER (BURNING DEBRIS)	September 1988	NEVADA	33,700	312	0
18	ANGORA (HUMAN)	June 2007	EL DORADO	3,100	309	0
19	SIMI (UNDER INVESTIGATION)	October 2003	VENTURA	108,204	300	0
20	SLIDE (UNDER INVESTIGATION)	October 2007	SAN BERNARDINO	12,759	272	0

Note that this list does not include fire jurisdiction. These are the Top 20 within California, regardless of whether they were state, federal, or local responsibility. Also note that "structures" is meant to include all loss - homes and outbuildings, etc.



11/4/2009

Source: [www.fire.ca.gov](http://www.fire.ca.gov)

**Note:** Based on the information above, the 2003 Cedar Wildfire is the second largest California Wildfire in the last 20 years in terms of structures destroyed, and it destroyed 2,820 structures. In addition, the October 2007 Wildfire (Witch) was the third largest California Wildfire; it destroyed 1,650 structures. Both fires ravaged San Diego County.

## Appendix 3

### Fire Prevention Bureau Schedule of Fees

San Diego Fire Prevention Bureau Schedule of Fees and Charges - Fiscal Year 2010		
<b>Special Event Permits, Inspections and Standby</b>		
Public Assembly Permits (includes previously exempt Non-Profit Organizations)	Per Event	\$91
Fireworks/Pyrotechnics Permits *see Standby below	Per Event	\$182
Trade Show Permits	Per Event	\$182
Tent/Canopy Permits	401 - 2,000 sq ft	\$91
	2,001 - 10,000 sq ft	\$182
	Larger than 10,000 sq ft	\$364
Standby Services for "Standard" Oversight Events (events include street fairs, block parties, parades, film-making activities, and fireworks displays) (2 hour minimum required)	Per Hour/Position	\$95
* Standby for fireworks occurring on December 31st and July 4th, 4 hour minimum required		
Standby Services for "Advanced" Oversight Events (events include major sporting events, large venue public assemblies, major concerts, and other large-scale, multifaceted events) (4 hour minimum required)	Per Hour/Position	\$138
<b>Fire Company Inspection Program (FCIP)</b>		
Assembly Occupancies	0 - 5,000 sq ft	\$200
	5,001 - 10,000 sq ft	\$223
	10,001 - 12,000 sq ft	\$234
	12,001 - 50,000 sq ft	\$242
	50,001 sq ft and above	\$671
Business Occupancies	0 - 5,000 sq ft	\$279
	5,001 - 10,000 sq ft	\$326
	10,001 sq ft and above	\$445
Educational Occupancies	Public Schools	Exempt
	0 - 5,000 sq ft	\$201
	5,001 - 10,000 sq ft	\$216
	10,001 sq ft and above	\$272
Health Care Occupancies	0 - 5,000 sq ft	\$111
	5,001 - 10,000 sq ft	\$130
	10,001 - 32,000 sq ft	\$317
	32,001 sq ft and above	\$421
Residential Occupancies	0 - 5,000 sq ft	\$217
	5,001 - 10,000 sq ft	\$246
	10,001 sq ft and above	\$470
Residential Care Facilities	Elderly persons 6 or less	Exempt
	0 - 6,000 sq ft	\$161
	6,001 sq ft and above	\$212
Large Family Day Care Facilities	Per Facility	\$190
Residential Group Facilities	6 persons or less	Exempt
	0 - 6,000 sq ft	\$297
	6,001 sq ft and above	\$303

		(continued)
Fire Lanes	Per Lane	\$148
Special Survey Inspections	Per Inspection	\$228
Pre-Inspections	Per Facility	
Community Care Facilities	25 persons or less	\$50
Community Care Facilities	26 persons or more	\$100
Technical Services/HazMat Permits and Inspections		
Aboveground Tank Installation Permit	Up to 3 Tanks	\$1,130
Aboveground Tank Removal Permit	Up to 3 Tanks	\$320
Underground Tank Installation Permit	Up to 3 Tanks	\$723
Underground Tank Removal Permit	Up to 3 Tanks	\$719
Tank Re-Pipe Permit	Per Re-Pipe	\$970
Liquefied Petroleum Gas Installation Permit	Up to 3 Systems	\$957
Compressed Natural Gas Installation Permit	Per System	\$1,538
Compressed Gas/Med Gas Installation Permit	Up to 3 Systems	\$1,538
Cryogen Tank and System Installation Permit	Per System	\$996
Pressurized Solvent System Permit	Per System	\$555
Gas System Re-Pipe Permit	Per Re-Pipe	\$970
Soil Remediation Permit	Per Site	\$565
Mobile Re-Fueling Tanker/Site Permit	Per Tanker/Site	\$182
Overtime Inspections (Before/After Hours, Weekends) (2 hour minimum on weekdays, 4 hour minimum on weekends)	Per Hour	\$96
Non-Compliance Re-Inspections	For 3rd and Subsequent Visits	\$300
CEDMAT Permits and Inspections		
Permit Fees	Per Permit	\$46
CedMat Inspections	Per Hour	\$112
Non-Compliance Re-Inspections	For 3rd and Subsequent Visits	\$300
Explosive Permits and Inspections	Per Site/Event	\$465
High Rise Inspections		
High Rise Inspections (Includes previously exempt Residential Condo/Apartment High Rises)	Per 1,000 square feet	\$11.83
Non-Compliance Re-Inspections	For 3rd and Subsequent Visits	\$300
Knox Box Installation Inspections	Per Address	\$137
Brush and Weed Hazard Non-Compliance Re-Inspections	For 3rd and Subsequent Visits	\$300
Fire Hazard Complaint Non-Compliance Re-Inspections	For 3rd and Subsequent Visits	\$300
Inspection Records Searches	Per Address	\$5
Fire Incident Reports	Per Incident	\$5
Arson Investigation Reports (MAST and PD)	Per Incident	\$7
Publication/Copy Fees	Per Copy/Page	\$0.25
(FPB Comprehensive Fee Schedule FY10)		

Source: Fire Prevention Bureau

## Appendix 4

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### Definition of Audit Recommendation Priorities

#### **DEFINITIONS OF PRIORITY 1, 2, AND 3 AUDIT RECOMMENDATIONS**

The Office of the City Auditor maintains a classification scheme applicable to audit recommendations and the appropriate corrective actions as follows:

<b>Priority Class<sup>26</sup></b>	<b>Description<sup>27</sup></b>	<b>Implementation Action<sup>28</sup></b>
1	Fraud or serious violations are being committed, significant fiscal or equivalent non-fiscal losses are occurring.	Immediate
2	A potential for incurring significant or equivalent fiscal and/or non-fiscal losses exist.	Six months
3	Operation or administrative process will be improve	Six months to one year

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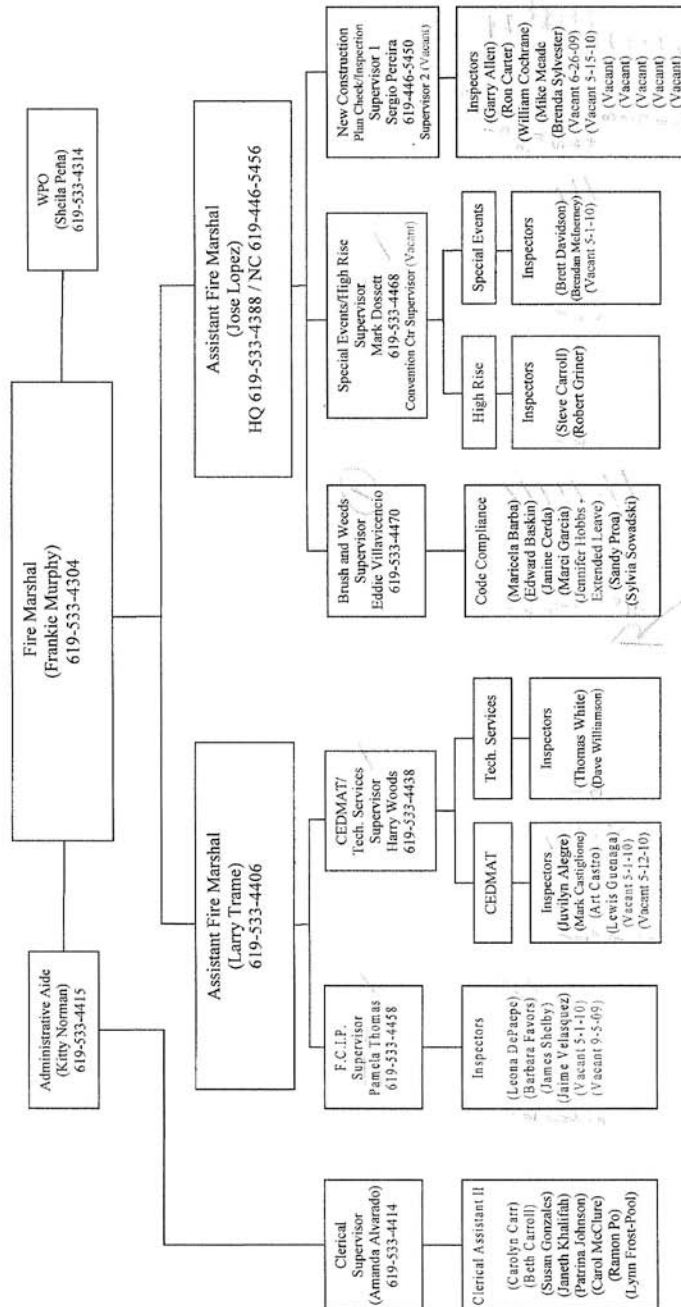
<sup>26</sup> The City Auditor is responsible for assigning audit recommendation priority class numbers. A recommendation which clearly fits the description for more than one priority class shall be assigned the higher number.

<sup>27</sup> For an audit recommendation to be considered related to a significant fiscal loss, it will usually be necessary for an actual loss of \$50,000 or more to be involved or for a potential loss (including unrealized revenue increases) of \$100,000 to be involved. Equivalent non-fiscal losses would include, but not be limited to, omission or commission of acts by or on behalf of the City which would be likely to expose the City to adverse criticism in the eyes of its residents.

<sup>28</sup> The implementation time frame indicated for each priority class is intended as a guideline for establishing implementation target dates. While prioritizing recommendations is the responsibility of the City Auditor, determining implementation dates is the responsibility of the City Administration.

## Fire Prevention Bureau Organizational Chart Fiscal Year 2010

San Diego Fire-Rescue Department  
Fire Prevention Bureau  
Organizational Chart



(06-01-10)



## **Fire-Rescue Department Response to the 2010 Fire Prevention Bureau Performance Audit Recommendations**

The mission of the San Diego Fire-Rescue Department (SDFD) Fire Prevention Bureau (Bureau) is to prevent fires by way of providing educational programs and opportunities to the community and through the enforcement of local, state and national fire codes. The enforcement of these fire codes ensures that all government mandated fire prevention measures are in place in occupancies such as high rise offices, hotels and residences, business offices, schools, public assemblies, manufacturing plants and facilities and any other occupancy that without fire prevention measures in place, would represent life safety hazards.

Bureau responsibilities also include the inspection of businesses that use Combustible Explosive and Dangerous Materials (CEDMAT), and the inspection and approval of fuel storage tanks, large tents and special events. Lastly, obligations of the Bureau include the approval of new building construction plans and remodels and brush management enforcement.

The process of completing the performance audit was an excellent opportunity for members of the Bureau and other internal and external stakeholders to review those areas of the Bureau that are performing well and those areas that are not meeting expectations. In terms of challenges within the Bureau, the high number of vacant positions has continued to be a contributing factor in mandated inspections not being completed on schedule. New methodologies continue to be explored to ensure that fee structures are appropriate so that the City's customers will be satisfied with how Bureau fire inspection services are invoiced. This has been a time consuming process, but one that is nearly complete.

Another notable outcome of the performance audit was a review of technology used by the Bureau to facilitate its programs. The audit confirmed the inadequacy of the Bureau's mainframe inspection database program and the need to complete implementation of the Field Collection Unit project that will replace it. Another critical need identified was to complete implementation of a new GIS software package to improve tracking of parcels requiring brush management inspection and the management of these inspections.

Over a period of time, the Bureau has experienced organizational changes resulting in the loss of the Community Education and Data Systems sections. This has resulted in an inability to proactively address fire hazards via community education and outreach efforts and an inability to maintain an accurate database of fire inspections.

Until recently, new construction plan check and inspection work was under the management of the Development Services Department (DSD). Data that had been entered and maintained within the Bureau's data management system (FIMS) was downloaded to the Development Services data management system (PTS). When the new construction plans check and inspection positions and workload were recently transferred back to the Fire-Rescue Department, the DSD data management system was not made readily available to the Bureau staff and the data was not transferred back to the Bureau's FIMS data system. This continues to represent a significant challenge for the Bureau staff in terms of ensuring that inspections are being completed on schedule.

On a positive note, the Bureau has recently been awarded two grants; one from the Federal Emergency Management Agency (FEMA) that will be applied towards improving inspection and data collection management system by way of technological advances and one grant from the American Red Cross that will provide for additional proactive brush management inspections to be completed.



## **Recommendations and Responses**

**To maximize public safety and to ensure that annual inspections are performed, we recommend that the Fire-Rescue Department and the Bureau take the following actions:**

1. The San Diego Fire-Rescue Department should further evaluate the resource requirements of the Fire Prevention Bureau and identify options for augmenting inspection staff. This may include, but is not limited to, assigning light duty personnel to help perform inspections or augment inspection staffing with qualified return retirees. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** Presently, the Bureau uses light duty and provisional personnel to augment permanently assigned staff in the performance of fire company inspections and other types of inspection activities. However, the use of light duty and provisional employees is limited by their availability and approval for the hiring of provisional employees must be received from the Chief Operating Officer.

Due to various physical limitations, not all light duty personnel are capable of performing all assigned inspection tasks and not all light duty personnel are assigned to the Bureau because of priority needs of other divisions in Fire-Rescue. The duration of their availability is often unknown and they may not be on assignment long enough to complete all assigned inspections. Also, the pool of retired employees wishing to work provisionally varies, is unpredictable, and often there is no one available.

**Implementation Timeline:** We are further evaluating resource issues as part of the separate Fire Prevention Bureau Efficiency Study. Once approved, we will implement recommendations and re-evaluate after one year of experience.

2. The San Diego Fire-Rescue Department should evaluate the Fire Prevention Bureau's workload before assigning its staff special projects that require considerable efforts, particularly if the Fire Prevention Bureau is not achieving inspection goals. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** While inspection activities are a general priority, some special projects and assignments must be assigned to FPB staff due to their specific background, code knowledge, expertise and skills. Workload, competing demands, and availability of staff are all taken into consideration prior to making these assignments. In general, most special assignment projects are completed by supervisory personnel with the assistance of inspectors.

**Implementation Timeline:** By the end of the third quarter of FY2011, FPB will communicate to staff via memo and Quarterly Staff Meeting, guidelines outlining the criteria to be considered when assigning FPB staff to special projects. These guidelines will also be included in the FPB Policy Manual.

3. The Fire Prevention Bureau should replace its practice of canceling CEDMAT inspections with a justifiable prioritization schedule that varies the frequency of inspections according to risk. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** Ideally, and with sufficient staffing, all inspections could be accomplished within optimal time frames. While the cancellation of inspections is not desirable, absent appropriate staffing levels, this practice is necessary in order to alleviate backlogs. For this reason, inspection priority criteria have been developed.

In the CEDMAT section, the supervisor currently prioritizes the inspection workload based on: 1) high hazard sites with large amounts of hazardous materials; 2) high hazard sites associated with the type of business/processes conducted; 3) sites with a history of compliance issues; 4) large sites with multiple processes/hazards; and 5) length of time since last inspected.

To alleviate backlogs and minimize the need to cancel lower priority inspections, the Bureau will evaluate whether it is possible to assign some of CEDMAT's less complicated inspections to other sections while continuing to strive for efficiencies and where warranted make the case that additional inspection staff are needed to meet the inspection workload.

**Implementation Timeline:** Cross training and/or realignment of staff recommendations are forthcoming from the Efficiency Study and implementation will begin within 6 months of approval.

4. The San Diego Fire-Rescue Department should ensure that the Fire Prevention Bureau maintains adequate documentation and data systems which provide reliable and accurate information on the universe of inspections, inspections performed, cancelled, and overdue. The Fire Prevention Bureau should use this information to appropriately plan inspection activities. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** The current Fire Inspection Management System (FIMS) mainframe database is a homegrown application whose evolution has not been well documented and whose limitations negatively impact Bureau operations. These issues are being addressed through the acquisition of a new inspection management system procured via an \$800,000 FEMA grant.

Known as the Field Collection Unit (FCU), this system will equip inspection personnel and fire station based crews that conduct fire inspections with a pen-tablet/PC based system that will allow for electronic capture of inspection data in the field, download capability into the Department's fire record management system, and integration for accessing data for emergency response use instantaneously through mobile data computers. Project objectives include ensuring all businesses/occupancies that require fire inspections are included in the database, and as funds and compatibility allow, to have electronic interface with the Treasurer's Tax Collection System and the Development Services Department's Project Tracking System databases.

**Implementation Timeline:** Within the next 6 months a feasibility study will be conducted to determine potential opportunities to address database completeness, integrity and accuracy.

**In order to increase accountability at the fire stations regarding inspections, we recommend that the Bureau take the following actions:**

5. The Fire Prevention Bureau should increase the time inspectors spend on direct inspection activity to match established department goals. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** One of the Bureau Efficiency Study deliverables is an analysis of the optimal direct inspection activity to indirect activity ratio and the development of a plan to achieve it.

**Implementation Timeline:** Once the Efficiency Study is approved, we will begin implementation of the recommendations within 6 months.

6. The San Diego Fire-Rescue Department should assess the adequacy of their inspections related performance measure for its CIP unit to ensure the measure tracks compliance with the annual inspection requirements. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** The established performance measure for the Fire Company Inspection Program for fire station crews is to complete 90 percent of assigned annual inspections within 90 days of the due date. Current performance is 79 percent. This performance measure will be revised to reflect annual inspections have been initiated within 30 days of their annual inspection date and completed within 90 days of their annual inspection date.

While fire inspections are recognized as an important component to reduce life safety hazards, there are higher priority activities fire station personnel are required to conduct. These activities include emergency response, training, and apparatus and equipment maintenance.

Given the above, inspections must be conducted around higher priority duties. In addition, due to the varying activity levels of the individual fire stations, it would be impractical to establish single time-based criteria (e.g.; unit will spend X time per day on inspections) for inspection activities. Lastly, all fire station based activities are impacted by constantly changing circumstances and more recently by rolling brown-outs. Therefore, the proposed performance measure modification is the most appropriate to convey that fire inspections are a priority and to ensure timely initiation/completion of inspections.

**Implementation Timeline:** N/A

7. The San Diego Fire-Rescue Department should assess current staffing requirements for providing inspection services that are fully cost recoverable, and as part of the assessment, consider the use of alternative services to supplement and/or enhance inspection activity. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** It is agreed additional inspection capacity must be developed. Options include using lower cost provisional employees, priority assignment of light duty staff, overtime assignment of inspection staff, use of volunteers to conduct lower level inspections, and consideration of outsourcing via managed competition

Due to the training requirements necessary to serve as a competent inspector, the Bureau has focused its efforts on augmenting its authorized staffing levels by utilizing light duty personnel and hiring retired inspection staff on a provisional basis. Both options are limited by personnel availability and the latter is limited by budgetary authorization.

While all of the above options are cost-effective in increasing inspection capacity, the challenge lies in making existing inspection processes as efficient as possible and then determining whether additional staff is required to meet inspection demand. If so, the additional FTE costs must be built into the fees charged to ensure all inspection programs are cost recoverable.

**Implementation Timeline:** The next phase of the FPB Efficiency Study includes a comprehensive evaluation of demand and necessary resources. FPB will include an assessment of some of these potential solutions in those follow-up activities, which we anticipate will begin in the third quarter of FY2011.

**To ensure that the Bureau database reflects the entire universe of businesses that require fire safety inspections and that resources are properly utilized, we recommend that the Bureau take the following actions:**

8. The Fire Prevention Bureau should work with other City departments, such as the City Treasurer's Business Tax Office and the Development Services Department, to electronically interface the Fire Prevention Bureau's database with other relevant City systems to ensure the timely capture of new business information. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** The feasibility of establishing these interfaces is currently being explored as part of the Bureau Efficiency Study and is contingent upon approvals, system access authorizations, system compatibilities and securing necessary funding for implementation. In the past, data sharing processes between the disparate systems have involved labor intensive manual data entry which increases the probability of data entry errors and has resulted in a failure to identify all occupancies requiring inspection and increased life safety risk within these occupancies.

**Implementation Timeline:** Within the next 6 months a feasibility study will be conducted to determine opportunities to address potential system interfaces.

9. The Fire Prevention Bureau should update policies and procedures making database completeness and accuracy a high priority. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** Database completeness and accuracy must be a high priority. This is currently being reviewed as part of the Bureau Efficiency Study. If electronic interfacing is achieved with the Treasurer's Office and Development Services Department, the Bureau will need to develop new policies and procedures to ensure completeness and accuracy of data.

Previously, new buildings/occupancies were entered into the Bureau's FIMS data management system so that New Construction Plan Check and Inspection personnel could conduct the necessary inspections; however, when the New Construction Plan Check and Inspection section was transferred to the Development Services Department, these entries were put into their data management system and are not electronically transferable to FIMS because of access policies and lack of an interface. This lack of data sharing between these systems must be corrected.

**Implementation Timeline:** In conjunction with the implementation of the new inspection management system, policies and procedures addressing internal controls will be developed and communicated to all relevant staff. This is currently anticipated to be implemented during the third quarter of FY2011.

**To provide a uniform approach and ensure efficient use of resources, we recommend that the Bureau take the following actions:**

10. The Fire Prevention Bureau should develop policies and procedures and implement controls addressing the following areas:
  - a. Defining the process for obtaining, maintaining, entering, and modifying inspection status information in the management information system;
  - b. Clarifying responsibilities for communication of inspection status between inspectors and data personnel;
  - c. Establishing the manner in which the information system is managed;
  - d. Discussing employees' roles and responsibilities related to internal controls and data management. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** This is being reviewed as part of the Bureau Efficiency Study. The new inspection management system has a limited capability to restrict access rights for the various inspection information fields which will be populated by inspectors while performing inspections in the field. Therefore, it is imperative that a new Inspector Training Guide be developed outlining the roles and responsibilities of all inspection personnel, including inspection process flows and internal controls.

**Implementation Timeline:** In conjunction with the implementation of the new inspection management system, policies and procedures addressing controls will be developed and communicated to all relevant staff. This is currently anticipated to be implemented during the third quarter of FY2011.

11. The Fire Prevention Bureau should work closely with the consultant hired to install the new data management system to ensure critical data fields are only accessible by appropriate personnel, or if this is impractical, establish mitigating controls to monitor the appropriateness of data access and modification. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** The new inspection management system (FCU) should have restricted access rights for the various inspection information fields which will be populated by inspectors

while performing inspections out in the field. However, we have been advised by the vendor that the current version of the FCU system being implemented does not allow such restrictions. While a future version may allow this capability, this shortcoming of the current version will negatively impact internal controls and must be addressed by developing control policies as discussed in the response to recommendation #10.

**Implementation Timeline:** If the capability becomes available in future upgrades of the data management system, the Department would evaluate the feasibility of implementation at that time.

12. The Fire Prevention Bureau should work closely with its Field Collection Unit consultant and IT staff to ensure that information transferred to the new system is corrected as soon as possible. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** None.

**Implementation Timeline:** In conjunction with the new inspection management system project, an initial review of some of the data will be conducted and revisions made as feasible. This activity is currently scheduled for the second quarter of FY2011. Additionally, over the course of the first year after implementation, as each batch of inspections is generated, associated information in the records will be reviewed and updated as appropriate. Fire-Rescue IT staff is working on data conversion from FIMS to the new inspection management system and will test data integrity prior to the transfer.

**To ensure proper remuneration for its inspection activities and recover the cost of inspections performed but not invoiced, we recommend that the Bureau take the following action:**

13. The Fire Prevention Bureau should retroactively invoice for the inspections that were not invoiced at the time they were performed due to data errors. (Priority 1)

**FPB Response:** We agree with this recommendation.

**Discussion:** A comparison of inspections to invoices will be conducted to ensure that all inspections were properly billed for Fiscal Year 2010. Any discrepancies will be corrected, and invoices generated to ensure full cost recovery. One of the Efficiency Study recommendations is the transfer of the billing responsibilities to the Fire-Rescue Fiscal Services Section, at which time new procedures for inspection validation in FPB, and billing in Fiscal, will be documented and implemented.

**Implementation Timeline:** This process will commence during the second quarter of FY2011. Completion will be dependent upon the time needed to hire the two account clerks and the number of occupancies identified requiring billing.

**To obtain appropriate and authorized remuneration for its activities, we recommend that the Bureau take the following actions:**

14. The Fire Prevention Bureau should develop a systemic and documented approach toward billing for, and recovering, unpaid inspection fees related to high rise inspections. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** Once the revised fee has been determined and approved by Council, a billing report will be generated of all high rise inspections in our data management system and invoices will be generated according to that rate.

**Implementation Timeline:** Guidelines will be developed in conjunction with City Council action related to the fee discrepancies in the high rise program which will include addressing unpaid inspection fees during the period invoicing was suspended. This effort is anticipated to occur during FY2011.

15. The Fire Prevention Bureau should resume and retroactively bill for inspections performed on commercial high rises once the City Council approved the new fee structure. (Priority 1)

**FPB Response:** We agree with this recommendation.

**Discussion:** We agree with the need to bill retroactively as recommended for high rise inspections conducted once Council adopts the new fee structure.

**Implementation Timeline:** Retroactive invoicing will occur within 60 days of final adoption by Council of a revised fee structure for high rises.

16. The Fire Prevention Bureau should bring before City Council a policy and protocol for future fee deferrals that determine when the Mayor has the discretion to grant approval for discontinuing billing for services rendered. (Priority 1)

**FPB Response:** We agree with this recommendation.

**Discussion:** All unpaid fees will be retroactively invoiced once final Council action has taken place with regards to high rise fees. In addition, the billing issues and fee collection suspension were made known to the Council's Budget and Finance Committee. New rates were being considered during the March Budget & Finance Committee meeting, during which staff was directed to ensure that stakeholder outreach was completed, and issues resolved prior to coming to City Council for final direction. In doing so, it was determined that the rate issue was broader than the high rise residential inspectable square footage.

The department continues to address the issues raised by stakeholders during those meetings via a separate Fire Prevention Bureau Efficiency Study, and will work with the Mayor's Office regarding timing and scope of any rate adjustments required. In addition, a proposal for the delegation of authority for future deferrals of inspection fees can be submitted to Council as part of the requested fee adjustments.

**Implementation Timeline:** Within 60 days of Council approval of the revised inspection fee schedule.

**To ensure that the Bureau inspects all parcels subject to brush management regulations, we recommend:**

17. The Fire Prevention Bureau should identify the capabilities and resources necessary to maintain a brush management tracking system which is up to date, retains relevant inspection information, and is used to efficiently and effectively deploy inspection resources. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** The Bureau has recently created a new GIS-based inspection tracking and mapping system that is currently in the testing phase. The mapping system determines the number of parcels requiring brush management, including address, Assessor's Parcel Number, property ownership information, and maintains a recorded status of each inspection. Associated reports and maps can then be generated to show the status and progress of proactive inspections.

If additional GIS building footprint software is obtained, the Bureau would be able to determine sole or shared brush management responsibilities, the percentage of responsibility, and determine the required amount of brush acreage on both public and private properties. The software used in the project will require the oversight of a GIS position.

**Implementation Timeline:** FPB will evaluate other potential mapping capabilities that will address these concerns within 6 months. We will evaluate the results of FPB's mapping and tracking system that is currently being used as part of the 2010 Red Cross Grant.

18. The Fire Prevention Bureau should conduct periodic benchmarking of fire prevention activities with other jurisdictions to identify and implement best practices. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** The most recent benchmarking efforts have been conducted as part of this Performance Audit and the Efficiency Study. It is found that practices, policies and staffing levels vary greatly and make direct comparisons very difficult. Part of the Efficiency Study includes recommendations regarding sustainability.

**Implementation Timeline:** FPB will ensure that future periodic benchmarking will be included in sustainability activities.

19. The Fire Prevention Bureau should reconcile its workload capabilities with the 2007 After Action Report and report the results to City Council. (Priority 2)

**FPB Response:** We partially agree with this recommendation.

**Discussion:** The reconciliation was conducted and presented to City Council. At that time, Fire-Rescue reported to Council that conducting all proactive inspections on an annual basis would require a total of 14.00 Code Compliance Officers. In the budget



processes since that time, 7.00 Code Compliance Officers have been approved by Council; 5.00 Code Compliance Officers to perform proactive inspections and 2.00 Code Compliance Officers to handle complaint inspections and route slips. As part of these budget processes, City Council adopted the current resources and associated inspection capacity for brush management inspection activities. A Red Cross grant was recently received that will allow for additional inspection hours to increase the number of parcels inspected.

**Implementation Timeline:** N/A

**To put forward its best efforts at protecting the public, we recommend that:**

20. The Fire Prevention Bureau should take the following items to Council for action:
  - a. Commission an assessment to determine whether the current standards for creating an adequate defensible space buffering the Wildland-Urban Interface properly address: slope, fire intensity and environmental conditions, existing non-conforming rights, and other outstanding issues. The assessment should also evaluate the need to hire an Urban Forester and a GIS specialist to increase brush management efficiency and effectiveness.
  - b. Based on the results of the assessment, prepare an ordinance with additional standards to address the deficiencies identified and present to the City Council justification for any additional staffing requests. (Priority 1)

**FPB Response:** We disagree with this recommendation.

**Discussion:** Major revisions to the City's brush management program and building codes were made following the 2003 and 2007 wildfires. In both cases, extensive efforts were made to benchmark other agency approaches to wildfire protection and to gather stakeholder input. In addition, numerous reports to Council committee and the Council itself were made in the adoption process.

The present policies reflect a careful balance between fire and life safety considerations and legitimate concerns about environmental impacts and quality of life issues. As in any program developed through a consensus building process, compromises were made to reach agreement. However, it is the opinion of the Fire-Rescue and Development Services Departments that the policies in place do provide a reasonable and appropriate level of protection to our community given that a very small percentage of homes are ignited by direct flame contact or radiant heat during a wildfire.

**Implementation Timeline:** N/A

**To ensure compliance with brush management regulations and to enhance public safety, we recommend that the Bureau take the following actions:**

21. The Fire Prevention Bureau should establish policies and procedures that require City departments to report back to the Fire Prevention Bureau the status of complaints and the steps taken to address the violation. These policies and procedures should establish a

process to inform the Mayor and/or Chief Operating Officer of non-complying City departments. (Priority 2)

**FPB Response:** We agree with this recommendation.

**Discussion:** Policies and procedures will be established to track the status of complaints and the responses back from various departments. However, with respect to non-compliance issues, the Bureau will communicate issues through the Fire Chief to the Chief Operating Officer. This will promote the City's compliance with the same codes it is requiring its citizens to comply with.

**Implementation Timeline:** This effort is expected to occur within the next 6 months.

22. The Administration should determine the number of parcels managed by City departments and the Fire Prevention Bureau should ensure departments are aware of their brush management responsibilities. (Priority 3)

**FPB Response:** We agree with this recommendation.

**Discussion:** The Bureau will notify departments of these brush management responsibilities annually. The Bureau will coordinate with the Real Estate Assets Department to identify parcels owned by City Departments and will notify them of their brush management responsibilities. The Bureau will serve as a resource to departments requiring assistance in interpreting brush management codes and their applicability and enforcement.

**Implementation Timeline:** FPB will notify departments via memo of their brush management responsibilities for their respective parcels annually during the fall season.

**In order to ensure that the Open Space Division is managing its funds in the best interest for the City and to increase transparency and accountability, we recommend that the Open Space Division take the following action:**

23. The Park and Recreation Department Open Space Division should conduct a new cost benefit analysis for future contracts and determine the most cost effective option to provide brush management services. (Priority 3)

**Park and Recreation Department Response:** We agree with this recommendation.

**Discussion:** The Department will conduct a new cost benefit analysis for future contracts and determine the most cost effective option to provide brush management services during the third quarter of fiscal year 2011.

The audit notes that the existing, April, 2010 contract with Aztec Landscaping is for brush management services at the rate of \$4,801 per acre. The audit also references a 2008 Department estimate (net of supervision, vehicles, fuel, and equipment) for City staff to provide brush management services. As noted in the audit, the 2008 estimate is \$3,448,629 for City employees to thin 100% of the acres subject to brush management.

This estimate translates into \$5,845 per acre, substantially more than the \$4,801 per-acre

cost of the Aztec contract. Given that the 2008 estimate of City employee costs is still substantially accurate it can be seen clearly and with certainty that the Aztec contract is less expensive per-acre than City forces.

**Implementation Timeline:** The Department will conduct this analysis prior to the execution of any future for-profit contract (expected to be in the third quarter of FY 2011).

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Date: October 4, 2010

  
Javier Mainar  
Fire Chief

  
Frankie Murphy  
Fire Marshal